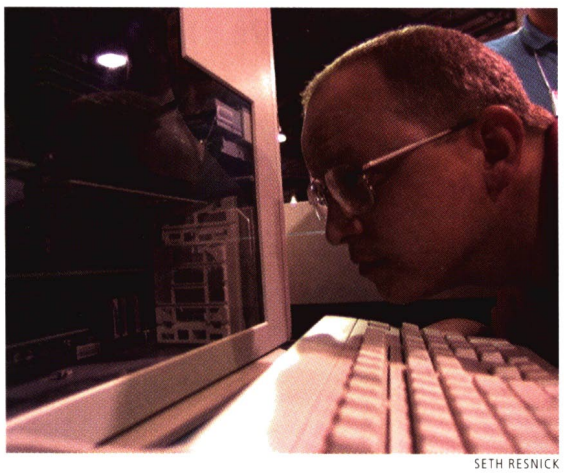
MacWEEK

08.12.96 | *The Newsweekly for Macintosh Managers* | VOLUME 10 NUMBER 31

ISDN
New life in pre-press, corporate Internet access

See Gateways Extra, Page 20



A show goer went in for a closer look at the future of the Mac clone market. UMAX's pre-release system housed a 250-MHz 604e processor.

SETH RESNICK

Expo crowd warms to summertime clone crop

By Joanna Pearlstein

Boston — While the Mac-compatible systems that could be seen on every aisle had many Macworld Expo attendees excited, not everyone is rushing to purchase the new clones.

"We don't care if there's an Apple [logo] on the front," said Jim Schroeder, technology facilitator at East Haven High School in Madison, Conn. He said he plans to buy a new machine from UMAX Computer Corp. of Fremont, Calif.

Kenneth Schwartzreich, owner of Cubic Consulting in Old Westbury, N.Y. said, "UMAX has great potential with the SuperMac brand name." He looked at models from both UMAX and

See CPU, Page 77

Java to filter into Mac OS with Harmony

By James Staten

Apple last week lent credence to its promise of delivering Java within the Mac OS. At Macworld Expo in Boston, the company gave the first public demonstration of pre-release software that runs Java applets in the Finder.

Apple said it would post the Mac OS Runtime for Java (MRJ) components this past weekend at http://dev.info.apple.com; they will also be distributed on OpenDoc Developer Release 6. The final version is expected to ship with the next major release of the Mac OS, code-named Harmony, due in the first quarter of 1997.

MRJ consists of a Java virtual machine, the standard set of eight Java classes from Sun Microsys-

See Java, Page 76

CEO slices up OS, slows PPCP intro

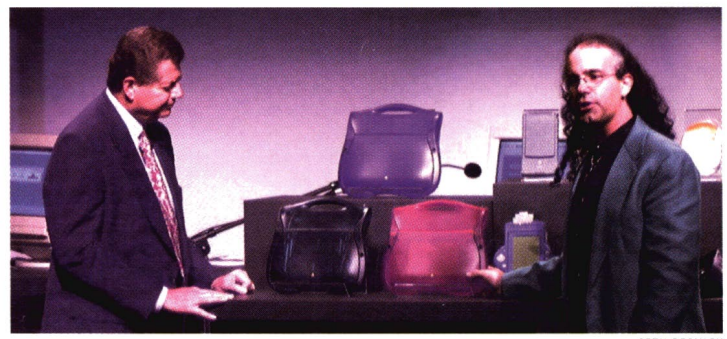
By David Morgenstern and James Staten

Boston — Apple CEO Gil Amelio rallied the troops in his Macworld keynote address last week and pulled out the big guns — forthcoming pre-release software and hardware from the company's labs.

Perhaps more important to Mac users in the near term, he detailed a new release schedule for Mac OS 8 and the introduction of multi-OS PowerPC Platform machines.

Instead of arriving fully formed, the OS will come in increments,

See Keynote, Page 76



SETH RESNICK

The Power Purse? Apple's Gilbert Amelio and Frank Casanova envision built-in handles and coordinated colors for future PowerBooks.

Color peripherals proliferate

Canon now loose in Mac market

By John Poultney

Color was key at Macworld Expo in Boston last week, as Canon blasted into the Mac imaging-peripherals market and Epson America Inc. introduced a 36-bit flatbed scanner.

Canon U.S.A. Inc. debuted a color laser printer and its counterpart, Canon Computer Systems Inc., introduced a low-cost tabloid-size color inkjet printer, both aimed at Mac users.

Canon's CLBP 360PS is a 600-dpi laser printer with a built-in Fiery XJE PostScript Level 2 RIP. The $12,500 device outputs 3 pages per minute in CMYK and 12 ppm in black and white.

The 360PS includes multiprotocol Ethernet and parallel interfaces. It includes a 100-MHz MIPS 4600 processor as well as 32 Mbytes of RAM; the memory cannot be expanded, Canon said.

The printer comes with a 514-Mbyte hard drive. A 250-sheet paper tray costs $600.

Canon said a forthcoming upgrade to the 360PS driver will add

See Canon, Page 74

NEWSPAPER PERIODICALS

REPORTERS' NOTEBOOKS

Twin peeks: Macs span shows

Users bounce back at Macworld Expo

By MacWEEK staff

Boston — Gilbert Amelio's first Macworld Expo as Apple CEO offered a marked contrast to the somber mood of last January's show in San Francisco, when Michael Spindler was on his way out and takeover rumors tore up and down the show floor.

The difference was highlighted by Amelio's keynote last week, which ended with a standing ovation (see story above). Power Computing Corp. elevated the mood a bit with

See Expo, Page 74

SETH RESNICK

Attendees at this year's expo leaned way back, putting their trust in Power Computing to deliver a brighter future for the Mac platform.

Apple spices up Cajun Siggraph

By Kelly Ryer

New Orleans — Alpha-channel masks supplanted carnival masks as more than 25,000 people braved the Crescent City's heat and humidity to check out the coolest in computer graphics during Siggraph 96 last week.

Apple chose Siggraph as the site to officially ship QuickTime 2.5 and unveil QuickDraw 3D 1.5 (see 08.05.96, Page 16); both optimized for its new multiprocessor Macintosh.

Despite the academic list of papers and seminars, the show floor offered plenty of glamour. Attendees shook in motion rides synced to video, viewed special-effects clips from feature

See Siggraph, Page 74

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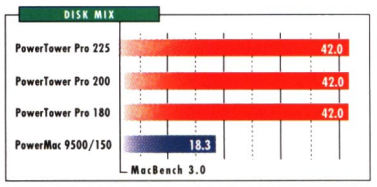

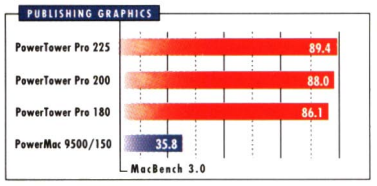

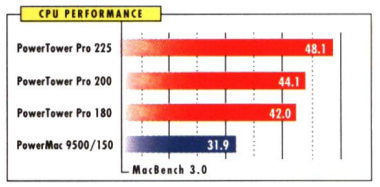

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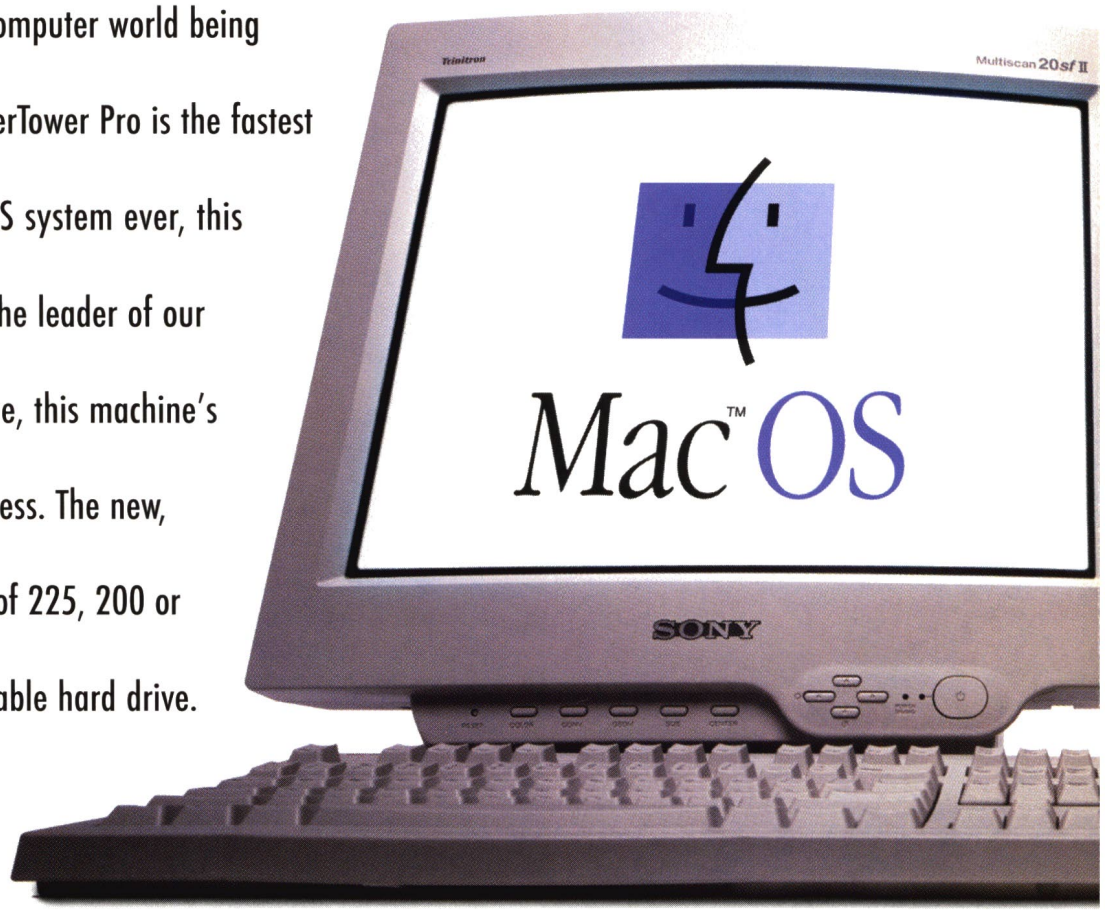

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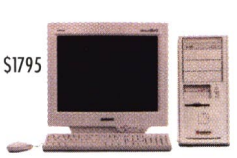

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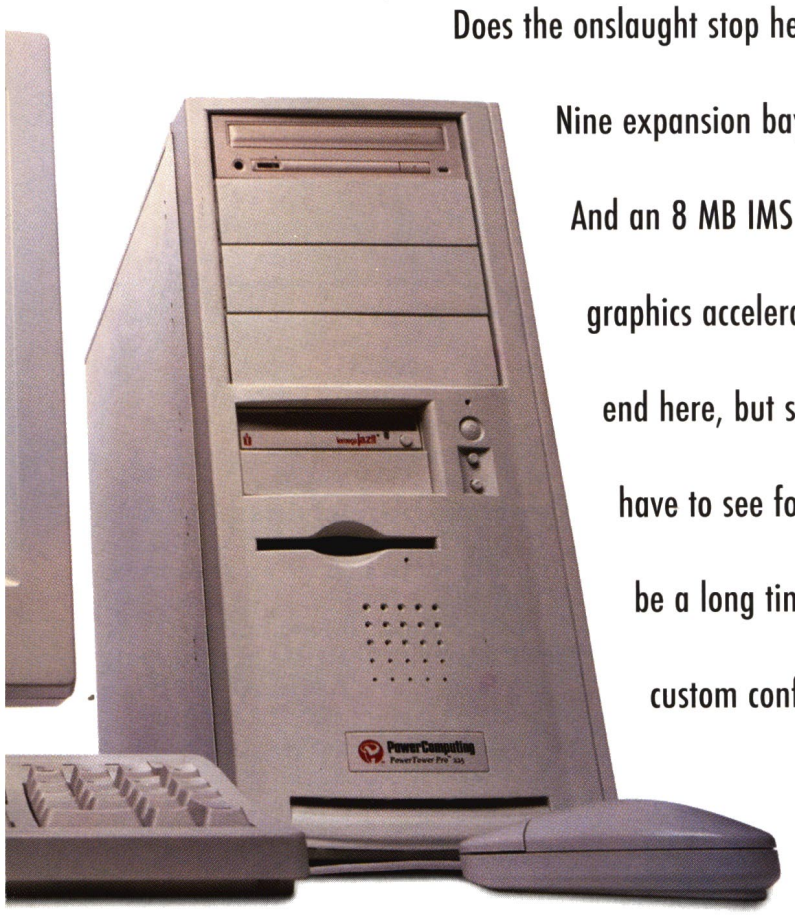
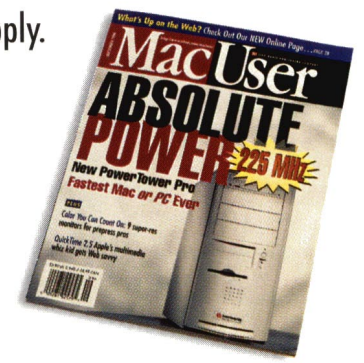


Does the onslaught stop here? No! Dual processor capability. Six PCI slots. Nine expansion bays. A 300w power supply. And an 8 MB IMS Twin Turbo 128 bit graphics accelerator. The list doesn't end here, but some things you just have to see for yourself. Sure there will be followers, but it'll be a long time before anyone even gets close. Call now to custom configure your dream system.



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AT DEADLINE

Long-awaited Canvas update makes it to users

The Canvas faithful were rewarded for their patience at the Deneba Software booth last week at Macworld Expo in Boston. The company began selling the first shrink-wrapped boxes of Canvas 5.0, a long-awaited update that transforms the illustration application into an integrated suite of illustration, image-editing, page-layout and presentation tools.

"Because the product was rewritten from the ground up, it took much longer than expected," said Doug Levy, vice president of corporate communications at Deneba. "Quality means more to us than making a deadline."

Canvas 5.0, priced at $599.95, will be free to users who bought the previous version, 3.5, between July 1, 1995, and Sept. 30, 1996.

Deneba Software of Miami is at (305) 596-5644; fax (305) 273-9069; sales@deneba.com; http://www.deneba.com/. □

Microsoft previews Mac Internet Explorer 3.0

Microsoft Corp. used last week's Macworld Expo in Boston to demonstrate the Mac version of Internet Explorer 3.0, the first edition of the browser to offer ActiveX and Java support.

Daniel McGilicuddy, Microsoft software test engineer, said a public beta of the new release will be ready by early September; a final version is expected to ship at January's Macworld Expo in San Francisco.

Version 3.0 will provide separate, Microsoft-built e-mail and Usenet news clients. Version 2.1 currently ships with Eudora Lite from Qualcomm Inc. of San Diego.

Microsoft also showed the final version of Internet Explorer 2.1, which the company expects to release this week.

Microsoft Corp. of Redmond, Wash., can be reached at (206) 882-8080 or (800) 426-9400; fax (716) 873-0906. □

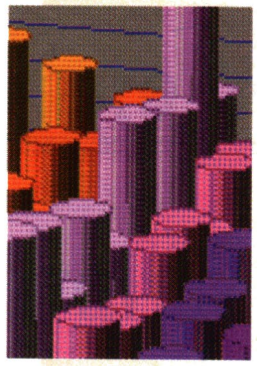
BBEdit Lite text editor to turn to OpenDoc

Bare Bones Software Inc. unveiled last week at Macworld Expo in Boston an OpenDoc version of its BBEdit Lite text editor.

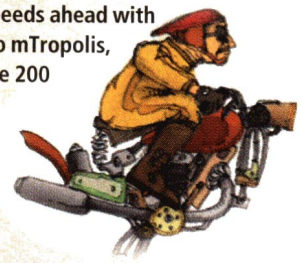
The company said it will release the OpenDoc part by the end of the month. Users will be able to download it free from http://www.barebones.com.

The OpenDoc part will have the same features as the standard BBEdit Lite, the company said. It will initially be released for the Power Mac, but Bare Bones said it is working on a 680x0 version. It also said it is looking at converting the full-featured BBEdit text editor to OpenDoc.

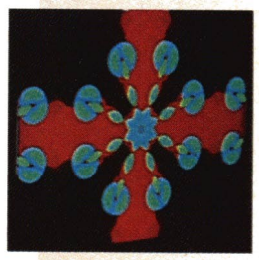
Bare Bones Software Inc. of Bedford, Mass., can be reached at (617) 676-0650; fax (617) 676-0651; bbsw@barebones.com. □



Wingz to land back on the Mac: Version 2.1 will have an expanded scripting language, 3-D graphing and cross-platform scripting. See News, Page 4.



mFactory speeds ahead with an update to mTropolis, which will be 200 percent faster than Version 1. See GA, Page 8.



High-speed Macs coupled with potent software can produce superb-quality special effects. See Solutions, Page 33.

The three digital cameras compared had good features, but not one met expectations. See Reviews, Page 30.

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Nikon shows off two new digital cameras • Wingz continues slow migration to Mac • NewSoft ships software six-pack • Epson launches low-cost, high-resolution inkjet

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Creating a custom toolbox for special effects saves some graphics professionals time and money.

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THIS WEEK ONLINE

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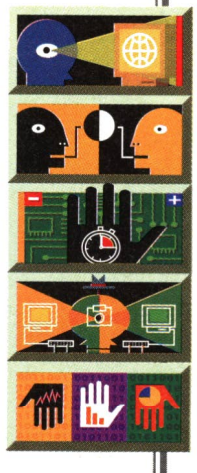
Online exclusives

Missed the expo? Although Boston's Macworld Expo may be over, MacWEEK online has all the hot stories from last week's show. News from the MacWEEK Report, our daily news publication at expo, is available online, along with daily reports from MacUser. … While online, visit MacWEEK's Expo Photo Scrapbook chronicling Boston's annual event. … Also: Opinion Page Editor Mark Hall reminds us in Off the Record that when schools talk computers, they are talking Macintosh. … Steamed Crabb looks at the grown-up Apple.



MacWEEK Insider

Copland will be born not with a bang but a series of beeps. Executive Editor Carolyn Said says Amelio's "dribbleware" strategy is in tune with the software-release patterns of the Internet.

Where to find us on-line

MacWEEK reports the news every day, and you can find the latest stories on the Web at http://www.macweek.com. On CompuServe, the news is free at go zmc:mwnews, and you can visit the MacWEEK Forum to discuss the events of the day at go zmc:macweek.

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Nikon's digital breed

New camera twists: PC Card-based, multimedia device

By Kelly Ryer

Most digital cameras closely resemble their point-and-shoot brethren, but at last week's Macworld Expo in Boston, Nikon Inc. gave conventioneers a peek at two new cameras that are clearly a new breed.

Although Nikon would not release information on availability or give pricing, both cameras will cost less than $1,000.

The first is a small, lightweight camera mounted on a Type II PC Card compatible with ATA (AT attachment). Users will be able to capture as many as 40 images in normal mode or 20 in a "fine" mode, Nikon said. Images will be 512 by 480 pixels and JPEG-compressed.

To download the images, users will simply plug the camera directly into a notebook computer or PC Card reader.

Nikon's new PC Card-based digital camera will connect to a battery pack, as shown here, and then plug directly into a portable computer.

The second is billed as a multimedia device. It will be capable of recording sound and handwritten memos in addition to images. The camera will come with a pen-driven menu system.

It will capture up to 125 images in normal mode or 65 in fine mode. Each image will be 640 by 480 pixels. Continuous images can be recorded at one frame per second. A SCSI cable will connect to a computer running the Mac OS or Windows.

Using a collapsible pen, photographers will be able to add drawings or handwriting to a layer that "floats" above the image. An AV jack will allow users to send sound and image data to a television or VCR.

Both cameras will have a one-third-inch color CCD (charge-coupled device) with 330,000 pixels, a 6.2mm focal length (equivalent to a 44mm lens on a 35mm camera) and a fixed aperture of f/4. Each camera will be equipped with a tripod adapter and a built-in flash.

Nikon Inc. of Melville, N.Y., can be reached at (516) 547-4200 or (800) 645-6687; fax (516) 547-0305; http://www.klt.co.jp/nikon/. □

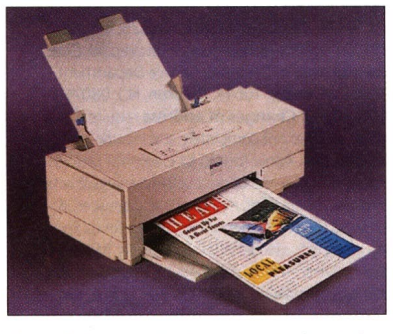
Epson's inkjet colors for less

By Leander Kahney

In a new foray into low-cost, high-resolution color, Epson America Inc. this week will deliver the Stylus Color 500.

The 720-dpi color inkjet prints on plain paper and will carry an estimated street price of $279.

Based on a proprietary engine, the Stylus Color 500 replaces the company's Stylus Color II, which printed only on coated paper. The new printer will also handle such media as banners, transparencies and envelopes. Epson said the Stylus Color 500's new halftoning capabilities and inks are tailored for printing high-resolution images, especially photographs. The printer will also come with a new on-screen status monitor that reports ink levels.



Epson's low-cost inkjet, the Stylus Color 500, will print four colors at 720 dpi.

The printer will connect to the Macintosh via a serial interface. It will ship with Adobe Systems Inc.'s PhotoDeluxe and a variety of clip art.

Special software for color correction of digital-camera and video images is compatible only with Intel-standard machines.

Epson America Inc. of Torrance, Calif., can be reached at (310) 782-0770 or (800) 463-7766; fax (310) 782-5220; http://www.epson.com.

FastTrack gets update, server edition added

By John Poultney

AEC Software Inc. is now shipping two new versions of its FastTrack Schedule scheduling and project-management application, one for individuals and another for servers.

FastTrack Schedule 4.0, priced at $299, includes context-sensitive online help as well as Tool Tips, small pop-up boxes that summarize tool functions.

The update automatically finds the best fit for any alphanumeric data as it is being typed and will choose the best fit for imported and existing data, AEC said. For dates, FastTrack now subscribes to the ISO format for fiscal weeks; the company said this feature makes the program more applicable to international projects.

Other new features include pull-down menus for changing numeric values, such as object and font sizes, and the Hot Corner, an icon that switches among FastTrack's toolbox, con-

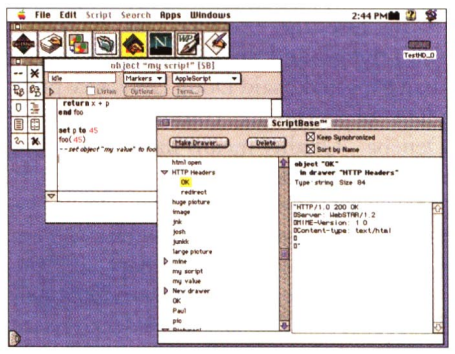
See FastTrack, Page 6

Scripter update opens next chapter

By Clifford Colby

Main Event Software Inc. last week released the latest edition of Scripter.

Version 2.0 of Main Event's AppleScript authoring and development environment features a handful of new debugging capabilities, the company said.



The new version of Scripter is integrated with ScriptBase, Main Event's repository for AppleScript values and objects.

With the new Call Box feature, users can call and single-step debug a handler. Its new message-catching capability lets users set up Scripter to redirect Apple events sent to the environment as a script. Users can then single-step debug Apple events received by Scripter.

The update includes what the company calls "live editing," which lets users set up the Call Box, and message catching for an applet or CGI (Common Gateway Interface).

The update includes ties to ScriptBase, Main Event's central repository for AppleScript values and objects.

The script-based repository can hold any type of data, according to Main Event, including numbers, strings, lists, records and scripts. Scripter features a browser for ScriptBase and comes with a development version of the software.

Version 2.0 ships with Object Map, a hierarchical browser that lets developers examine relationships between object classes and their element classes.

Main Event last week also rolled out Dogpatch, the company's $299 Apple-events traffic cop for directing and redispatching Apple events.

Scripter 2.0 costs $229 but is available at an introductory price of $199. Registered users can upgrade for $59.

Main Event said it has also reduced the price of ScriptBase to $59 from $79.

Main Event Software Inc. of Washington, D.C., can be reached at (202) 298-9595 or (800) 616-8320; fax (703) 538-3042; info@mainevent.com; http://www.mainevent.com. □

Wingz flits back to Mac

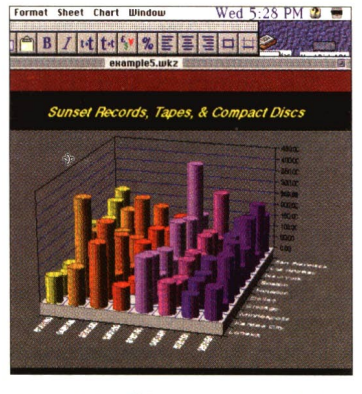
By John Poultney

Like a swallow to San Juan Capistrano, the long-lost Wingz spreadsheet and data-analysis package is returning to the Mac.

The program, originally developed and marketed by Informix Software Inc., was acquired by Investment Intelligence Systems Corp. in late 1994. The last Mac iteration of the spreadsheet, Version 1.1a, appeared in June 1991.

IISC said it expects to ship its first update to the spreadsheet by

See Wingz, Page 6



Wingz 2.1 will have an expanded scripting language, 3-D graphing and cross-platform deployment.

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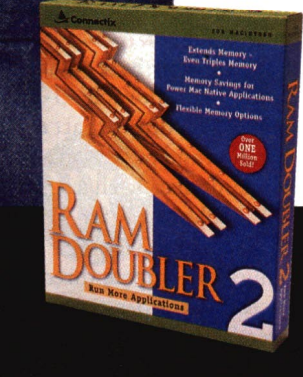

Triple Your Memory With New RAM Doubler 2

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App bundle set to scan

NewSoft ships scanner six-pack

By Leander Kahney

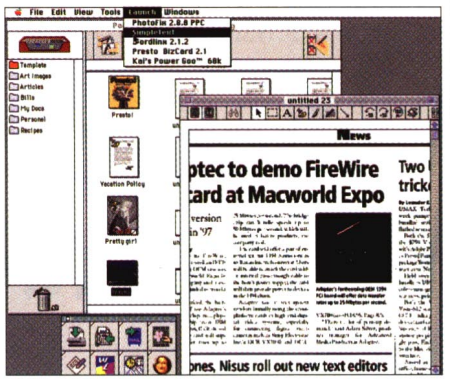
NewSoft Inc. has gathered together $450 worth of scanning software and bundled it into a $79 suite.

The ViewOffice PowerSuite is a collection of six scanning and document-imaging products for any scanner that uses Twain or Adobe plug-in formats, NewSoft said.

The suite centers on NewSoft's Presto! PageManager! 1.2.1, an $89 scanner controller the company calls a "scanning OS."

According to NewSoft, PageManager! supports direct scanning to most imaging, word processing and spreadsheet applications.

PageManager! can also scan directly to printers, faxes and e-mail, provided the user has the appropriate device and software, NewSoft said.



The Presto! PageManager! scanner controller is the heart of NewSoft's scanning bundle.

Complementing the PageManager! software, NewSoft included three other scanning products in the bundle: its $49 OCR program, Presto! Wordlinx 2.1.2, which reads 11 European languages; Presto! PowerForm 1.0, a $49 utility that scans printed forms and lets users fill them in electronically; and Presto! BizCard Reader 2.1, a $69 package that scans, reads and archives business cards.

The bundle is completed by a limited version of Kai's Power Goo, a $50 special-effects image editor from MetaTools Inc., as well as Microspot USA Inc.'s PhotoFix 2.8.8 (the current version is 3.0), a $139 Power Mac-native image-processing package that handles PICT and TIFF files.

NewSoft Inc., a subsidiary of UMAX Data Systems Inc. of Fremont, Calif., can be reached at (510) 252-0267 or (800) 214-7059; fax (510) 252-0536; sales@tophat.com; http://www.tophat.com. □

FWB extensions speed disk I/O

By John Poultney

Last week at Macworld Expo in Boston, FWB Software LLC introduced Turbo Toolkit, a $79 suite of three system extensions designed to speed disk I/O operations.

The package includes TurboRead, which monitors user access patterns and buffers commonly accessed data to RAM for faster application performance, the company said. The company said the utility functions with read operations only, alleviating data corruption that occasionally arises from write caching.

TurboDisk is an optimization tool that continually monitors files and defragments them automatically or at user-defined intervals. The tool includes a graphical viewer that depicts placement of various file types on the hard disk.

TurboBoot, which was originally released as a part of FWB's Hard Disk ToolKit, rearranges the order in which resources are requested and read into RAM at start-up. Normally, certain resources are not loaded into RAM until requested by extensions; TurboBoot tracks the blocks that are normally requested and then formulates larger read operations that load these into memory before they are requested.

FWB Software LLC of Menlo Park, Calif., can be reached at (415) 325-4392; fax (415) 833-4655; sales@fwb.com; http://www.fwb.com. □

Wingz

From Page 4

the end of September. For the update, Wingz's new owner said it plans to boost the application's embedded scripting language, HyperScript. IISC said it will add more than 400 commands and functions that will let users customize the application.

The company said Version 2.1 will feature a redefined user interface. Other visual enhancements will include illumination effects via movable 3-D light sources and direct chart rotation, elevation and perspective handles for manipulating charts.

A spokesman for IISC said the company will not position Wingz to compete directly with Microsoft Corp.'s popular Excel spreadsheet. Rather, the program will be aimed at users who need more-sophisticated data analysis, particularly in cross-platform environments.

IISC said the package will cost $399; current owners will be able to upgrade for $89. A beta version is available on IISC's Web site.

Investment Intelligence Systems Corp. of Overland Park, Kan., can be reached at (913) 663-4472 or (800) 494-9464; fax (913) 663-4473; http://wingz.iisckc.com/index.html. □

FastTrack

From Page 4

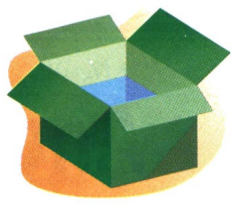
trol palette and online help functions. The update lets users preview changes before committing to them.

AEC is also introducing a server edition, now called FastTrack Schedule 4.0 Network Version.

According to AEC, the network version has file-locking to prevent unauthorized users from editing documents. Further protection is provided through a three-level password system. FastTrack documents created on the Macintosh package may be opened transparently on the Windows version, the company said. The server version is available in five-, 10- and 25-user packs for $1,390, $2,720 and $6,650, respectively.

AEC Software Inc. of Sterling, Va., is at (703) 450-1980 or (800) 346-9413; fax (703) 450-9786; http://www.aecsoft.com. □

STORAGE BEAT



The direct approach. Hitachi America Ltd. of Brisbane, Calif., recently introduced the OD172 DOW, a 5.25-inch, 2.6-Gbyte magneto-optical drive, priced at $2,295. An external version, the OU172 DOW, costs $2,795.

Each of the models use Light Intensity Modulation-Direct OverWrite (LIM-DOW), a single-pass writing technology that Hitachi said doubles the write performance of other optical drives. The drives' average data transfer rate is 3.37 Mbytes per second; average seek time is 39 milliseconds, the company said. Phone (415) 589-8300 or (800) 448-2244; fax (415) 583-4207; http://www.hitachi.com.

What's your sign? Micropolis (USA) Inc. has brought its low-cost Aries 2 series drive to the AV world. The company's new Aries 2 Model 4421AV is a low-profile drive with a 2-Gbyte capacity and a sustained data transfer rate of 4 Mbytes per second. According to Micropolis, average seek time is 8.8 milliseconds.

Priced at $550 and armed with a Fast SCSI-2 interface, the 4421AV is aimed at high-throughput installations such as multimedia, digital-video editing and video servers. The unit is available as an OEM mechanism in either 3.5- or 5.25-inch form factors.

Four to one. Nakamichi America Corp. of Torrance, Calif., is shipping a four-disc SCSI CD-ROM changer in a half-height internal enclosure. The MJ-4.8s, priced at $549, is aimed at high-end multimedia users and systems integrators, the company said.

The 8x drive provides a sustained data transfer rate of 1,200 Kbytes per second, Nakamichi said. The MJ-4.8s doesn't need to rescan all discs when one is swapped, the company said. Phone (310) 538-8150 or (800) 421-2313; fax (310) 324-7614; http://www.nakamichicdrom.com.

Iomega results. Things are looking up for Iomega Corp. of Roy, Utah. The removable-drive manufacturer reported $283.6 million in second-quarter revenues, compared with $52.6 million in the year-ago period. Income grew to $14.1 million for the quarter, up substantially from the $1.9 million loss during the second quarter of 1995.

Gross margins grew from 22 percent of revenue during the second quarter of 1995 to 27 percent in the same period this year, while operating expenses decreased from 27 percent of revenue to 18 percent in the year-ago period.

Fire on the mountain. Luminex Software Inc. in September will add two SCSI CD-ROM jukeboxes to its Fire Series. The $3,995 LSX-CDJ-50 and $9,995 LSX-CDJ-100 will have 50- and 100-disc capacities, respectively. Integrated with each will be Luminex's proprietary LSX SCSI expander, which provides one SCSI ID for multidrive devices.

The Luminex Fire Series also includes the LSX-CDJ-150, 300 and 500 models, priced at $17,995, $21,995 and $24,995, respectively, and holding 150, 300 and 500 discs. Phone (909) 781-4100 or (888) 586-4639; fax (909) 781-4105; http://www.luminex.com.

— By John Poultney

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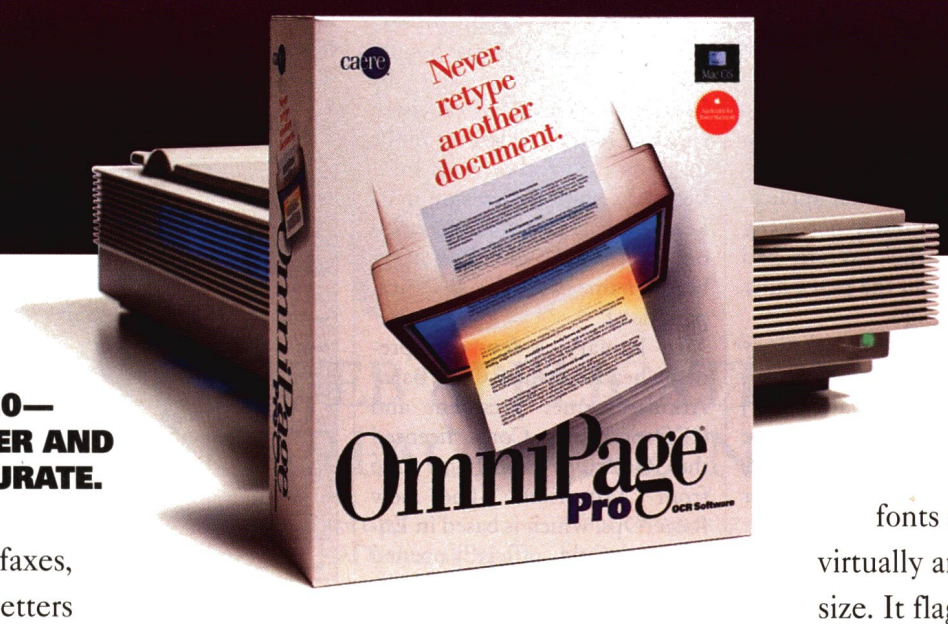

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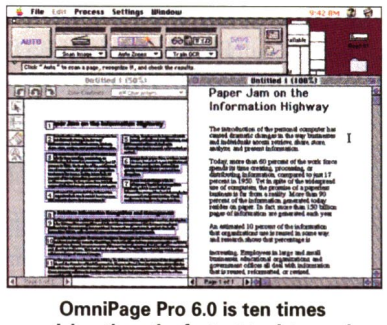

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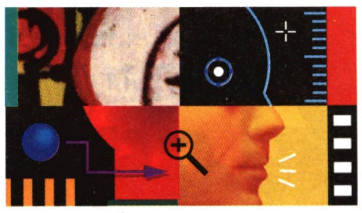
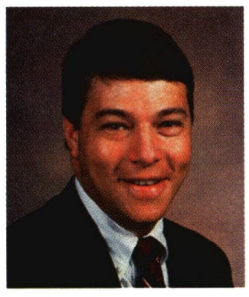


QuickTime 2.5: A great leap forward. See Reviews, Page 27.

Q & A

Berger ponders Radius' future



Just days before Macworld Expo in Boston, battered graphics vendor Radius Inc. offered its creditors shares in the company in exchange for debt reduction. This measure came on the heels of a surprising third quarter, in which Radius turned a $4.7 million profit after months of losses from its damaging foray into the Mac clone market. Senior Associate Editor/GA Matthew Rothenberg spoke with Radius CEO Chuck Berger about his company's financial and technological future.

MacWEEK: *We're covering a couple of stories right now: Apple is coming out with an Avid-developed video-editing suite, which is going to be aggressively priced, and Avid itself is not interested in marketing the [product] because it's trying to focus on the high end. Where do you see Radius' products coming into that mix?*

Berger: At neither of those extremes. The Apple-Avid product, as we understand it, is a low-price, low-end product that only gives you quarter-frame video and is not of the quality needed for anybody doing video for a professional application. We're definitely not going after that market. We've had products there in the past under the brand of Spigot.

Nor are we going after the very high end, where Avid is trying to sell multiple [installations of] their nearly $100,000-or-more systems to go into real-time, broadcast-type situations. Our typical customer has been people who are doing short-form video for broadcast. By short form I

See Berger, Page 10

RasterOps rises from the ashes

Company ready to release first display of series

By Connie Guglielmo

Everything about RasterOps Technology Corp. is new except its name and its mission. The company is again offering color-management and display technology to Mac users.

Once a major Mac third-party developer, RasterOps was bought out several years ago by Indianapolis-based Truevision Inc., one of its competitors in the graphics-card and monitor markets. Although Truevision marketed a technology that was based on RasterOps, the RasterOps brand name was, for the most part, dead.

In January, a few entrepreneurs headed by new CEO Barry Atkins, former president and CEO of Zycom Corp., licensed the RasterOps name and logo from Truevision. The new RasterOps, which is based in Englewood, Colo., officially opened its doors for business in late July. The company plans to release in September the first in a series of color displays specifically for Macintosh users.

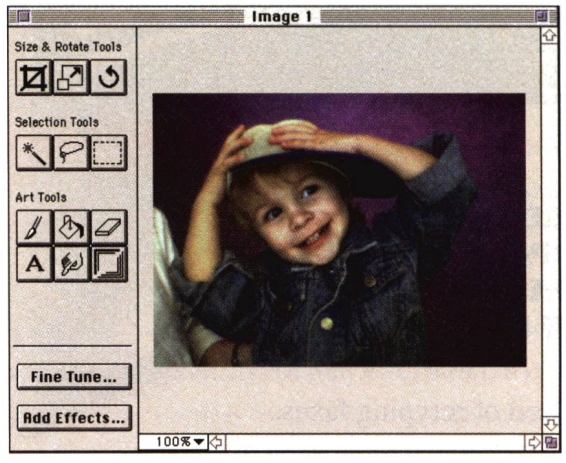
The decision to pick up the RasterOps name and enter the Mac market, said company executives, was due in part to the near-demise of the other once-dominant Mac graphics display developer, Radius Inc., which is now trying to make a comeback.

"We've seen over the past 12 months a large hole in the market, especially with the situation at Radius," said Chris Peterson, RasterOps vice president of worldwide sales and marketing and a former Radius executive. "We don't really see anyone providing color-management tools, monitors and solutions specifically to Mac users."

Analysts agreed that there is a market for high-quality color-management tools for graphic artists but wondered whether this is the right time to launch a Mac-centered business.

"There's a certain amount of risk implied with being in business, and that risk is even greater with the downturn in Apple's business," said Patrice Dunn,

See RasterOps, Page 10



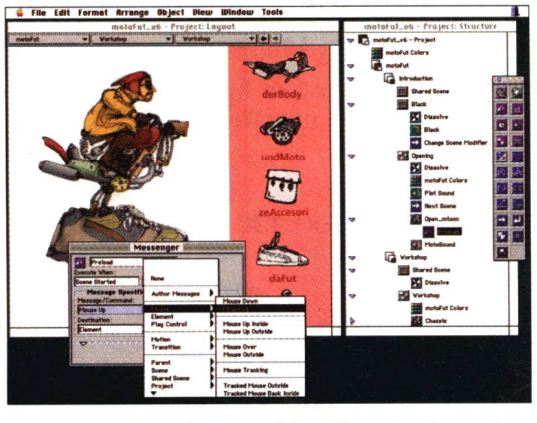
Picture perfect: Besides simple image editing, PhotoMate features photo-album and slide-show capabilities.

mFactory reduces price, speeds mTropolis

By Kelly Ryer

Hoping to widen its user base, mFactory Inc. lowered the price of mTropolis from $4,995 to $1,195 and is working on a speedy upgrade to the interactive multimedia-authoring tool.

mFactory demonstrated mTropolis 1.1 at last week's Siggraph 96 show in New Orleans and will ship it this month, the company said.



mFactory's mTropolis 1.1 multimedia-authoring tool will raise the speed bar 200 percent.

"It's really the beginning for mTropolis," said beta tester Paul Sebastian, director of production at Headspace Inc. of San Mateo, Calif. "Until now, it was too high-priced to be taken seriously as a mass-market tool.

"[It has] lots of value and lots of power, and now it costs the same as other tools," Sebastian said.

According to mFactory, the new version is 200 percent faster than its predecessor when running complex operations. The new version will also add support for Apple's QuickTime VR technology (see 04.08.96, Page 10).

Users of Version 1.0 of mTropolis will receive Version 1.1 free.

Sebastian, who uses mTropolis for in-house prototypes, said he welcomes a more competitive marketplace for multimedia authoring. "Now you'll finally see it in MacWarehouse, on the same page as [Macromedia] Director, and you can compare the features," Sebastian said. "Competition ends up being great for us end users."

mFactory Inc. of Burlingame, Calif., can be reached at (415) 548-0600; fax (415) 548-9249; http://www.mfactory.com.

Connectix releases low-cost image editor

By Rebecca Gulick

Connectix Corp. entered the image-editing picture last week with an application that complements its popular line of low-cost digital cameras.

Connectix touts PhotoMate, which shipped last week at Macworld Expo in Boston for $99, for use with its gray-scale and color QuickCams, priced at $149 and $299. Despite the low price, the software will work with any PICT, TIFF, JPEG or BMP image, the company said.

PhotoMate's tool palette contains many of the same tools found in Adobe Photoshop's palette, including Magic Wand, Lasso and Paint Bucket. The Connectix software provides simple controls for smoothing or sharpening, altering color balance, and adjusting the exposure of images.

The application also features a variety of built-in effects, including antique, emboss and quake. A future update to the software will accept Photoshop plug-ins, Connectix said.

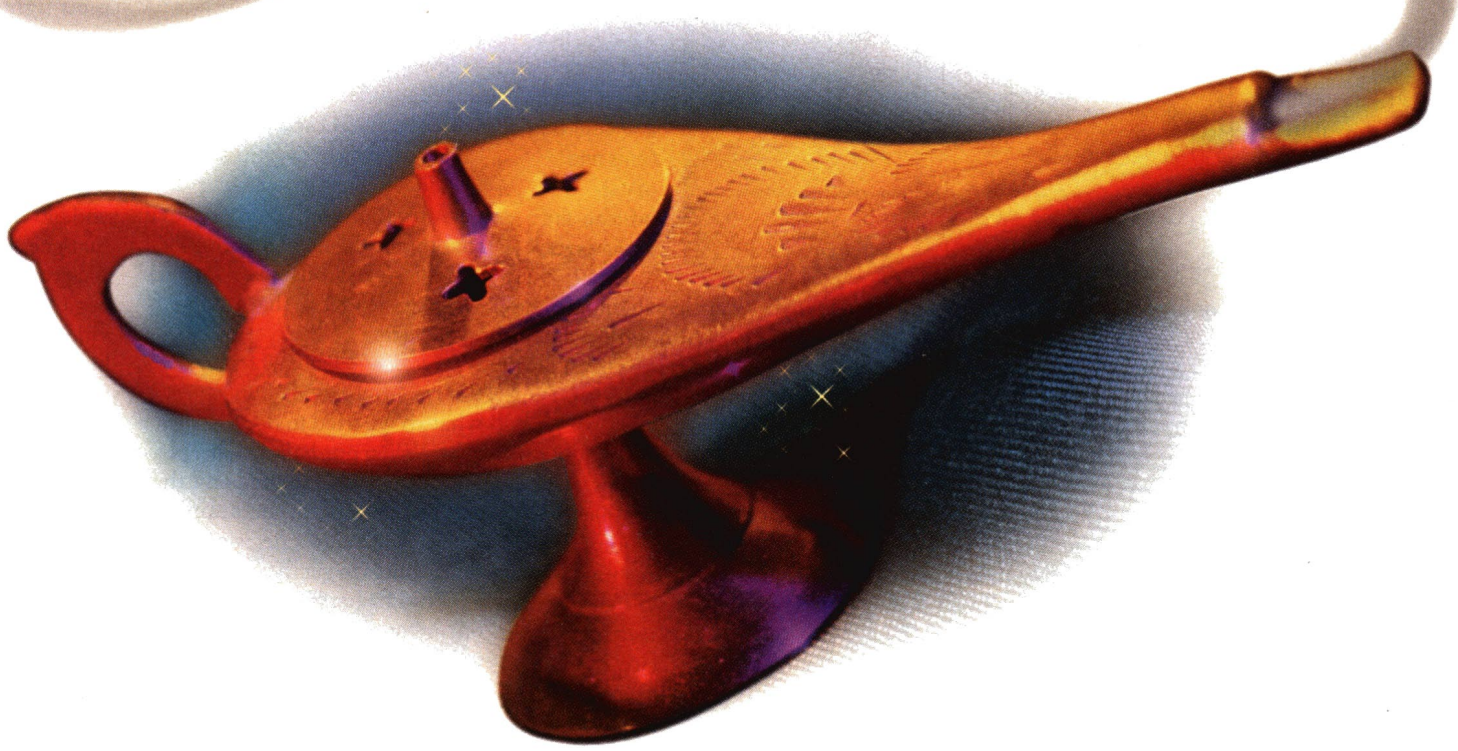
PhotoMate's Photo Album feature is a scaled-down image database that catalogs images and offers thumbnail previews when users conduct a search of image names.

With the click of a button, users can begin creating a slide show, selecting images from PhotoMate's "photo album." Text and sounds can also be included.

PhotoMate has tools to let users create simple multimedia presentations. The software comes with background and prop photos and

See Connectix, Page 10

WEB/DATABASE *MAGIC*



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Suitcases sent packing

Font Reserve has new approach

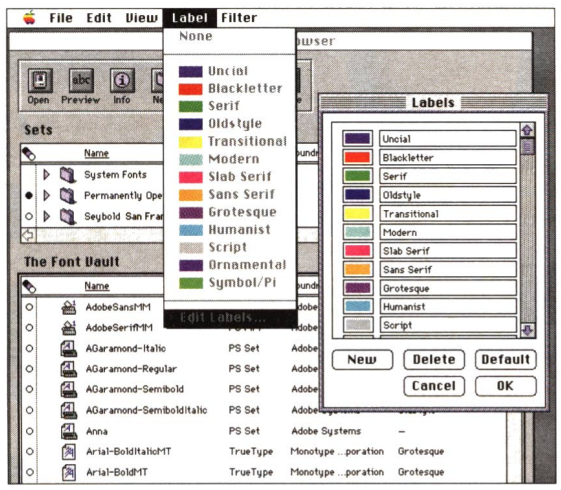
By Rebecca Gulick

Taking a more fundamental approach to font management, DiamondSoft Inc. last week gave show goers at Macworld Expo in Boston a peek at its first product.

Font Reserve, slated to ship in late summer for $119.95, was designed to circumvent the suitcase paradigm, which DiamondSoft said can lead to font corruption and confusion for users managing thousands of fonts.

Users will add fonts to Font Reserve's SQL database by dropping files, folders and volumes onto a DropFont icon. Then the Font Knox search engine will extract key information from the font files, such as names, foundries and version numbers.

This engine will search for corrupted and duplicate fonts. It will also match up bit-map fonts and their outline counterparts and put the matches into a PostScript Set folder. When this process is completed, fonts will be moved to the Font Knox Vault.



DiamondSoft Inc.'s Font Reserve will take an anti-suitcase approach to managing fonts. Its Vault feature will check for corruption and duplicate fonts and match bit-map and outline sets.

Vault and Sets browser windows will comprise Font Reserve's interface. In the Vault browser, the software will organize fonts by name, type, foundry, family and classification. It will also list version numbers and creation dates. The hierarchical Sets window will organize fonts into user-defined groups.

Users will be able to open and close fonts individually or by family or sets, and configure them to open permanently or temporarily. Users will also be able to write scripts to open and close fonts automatically.

Users will be able to preview their fonts in several ways, including character maps, point size and paragraph samples.

A free QuarkXTension that automatically opens fonts used in an XPress document will ship with Font Reserve. For users sending documents to service bureaus, Font Reserve will also create font sets for individual documents.

Font Reserve will be distributed and supported over the Web. A limited demo version of the software that supports up to 100 fonts will be offered free. The software will be available on CD-ROM for an additional $20.

DiamondSoft Inc. of Mill Valley, Calif., can be reached at (415) 381-3303; fax (415) 381-3503; http://www.fontreserve.com. □

Berger

From Page 8

mean a minute to three minutes in length, maximum.

We also have a pretty good following in people who are doing video for CD and, finally, people who do video for the education market or for the corporate-education market.

What about 3-D acceleration?

The reason we chose [to have a booth at] Siggraph this year over Macworld is we will be introducing Thunder 3D, which is a QuickDraw 3D accelerator using the 3D Labs [Inc.] chip sets that provide very, very strong 3-D performance. We're very excited that that is the next generation of graphics-card business. I think we'll be a leader in that area.

What is Radius' business strategy?

Let me briefly walk you through what we've tried to do in the past year. When our balance sheet basically just reached the point that it could not sustain the strain any longer, we made a decision to do three things to get the company to a position where it could be viable on an ongoing basis and profitable and create value for our shareholders.

The first of those was to focus our business around the products that we do best, where we add significant technology and therefore make sustainable margins. And that has resulted in exiting the undifferentiated display business.

It resulted in our spinning out our clone business to UMAX [Computer Corp.], where we retained 20 percent in that company, but they are now providing the funding and management. We also get a royalty for every one of the products they ship.

We've also spun out our RIPs business into a new company called Splash Technology [Inc.]. That's entirely independent, although we continue to own 20 percent of that as well.

That left us with [a] business that we make much better gross margins on. The first and most significant margin contributor is our graphics cards and image-processing business: our ThunderColor and PrecisionColor products. ... We still believe we have the commanding market share in that marketplace and have considerable technology that goes in those products.

Secondly, last quarter we just began to ship our first digital video product for Apple's PCI-bus CPUs.

And then finally — again continuing to focus on content-creation professionals — we are continuing to ship our PressView display, which is a high-end, 21-inch, Mitsubishi-based Diamondtron display that we've added significant software and a color calibrator to.

How big is Radius now?

We have about 140 employees. It was, a year ago, a little over 500.

Can you talk about the quarterly results that Radius just announced?

We feel pretty comfortable [that] we've done all the cost-cutting we need to do, coupled with [a] focus on high-margin products. That has gotten us to the point where in the quarter we were — on an operating basis, essentially — just a little better than break even. But on top of that, added into our profit mixture, we had nearly a million dollars worth of restructuring reserves that we found we didn't need, and we reversed.

Also we saw, as we did last quarter, moneys coming in as a result of the spinning out of both Splash and UMAX.

What are you shooting for this quarter?

We'll be somewhat more profitable on an operating basis than we were last quarter. Most of all, we're hoping to put all of the restructuring issues behind us and launch into fiscal 1997 with a clean balance sheet.

We had debt structure that was fairly significant because of the size of the company. We are in the process of exchanging a good deal of that debt for stock so that it will move out of our liability section in our balance sheet to our equity section. □

Connectix

From Page 8

an arsenal of sounds. It ships with a limited edition of QuickCards, Connectix's application for making multimedia greeting cards.

Online documentation walks users through tasks such as adjusting contrast and removing red-eye effects. The software also has a self-timer for the QuickCam cameras.

A Windows version of PhotoMate will be available in September, Connectix said.

Connectix Corp. of San Mateo, Calif., is at (415) 571-5100 or (800) 950-5880; fax (415) 571-5195; http://www.connectix.com. □

RasterOps

From Page 8

president of Dunn Technology Inc. of Vista, Calif. "Still, there is a tremendous installed base of Macs out there, and I think there is a market among graphic artists for color monitors with a higher degree of stability and repeatability than those currently out there."

Hoping to cash in on users' familiarity with the RasterOps name and logo, the new privately held company plans to ship in September graphics-accelerator cards that it recently licensed from Number Nine Visual Technology Corp. of Lexington, Mass.

RasterOps will be the exclusive North and South American distributor of Number Nine's Imagine 128 accelerators, which it will market under the name RasterOps' OptiColor 128. (Number Nine will continue to offer the Imagine 128 in international markets.)

The OptiColor 128 for the Power Mac is a 128-bit graphics accelerator that moves data across an optimized memory bus to high-speed video RAM, providing high-speed performance at color modes ranging from eight- to 32-bit color (see 01.22.96, Page 12).

RasterOps will offer versions of the accelerator with 4 Mbytes of RAM and 8 Mbytes of VRAM; pricing has not been set, but RasterOps said it will offer a five-year limited warranty on the OptiColor 128 product line.

The company said by year-end it hopes to ship its second product: a new two-page color display for the Mac.

RasterOps Technology Corp. of Englewood, Colo., can be reached at (303) 267-9410 or (888) 872-7837; fax (303) 367-9411; spraster@aol.com. □

Truevision continues profit streak

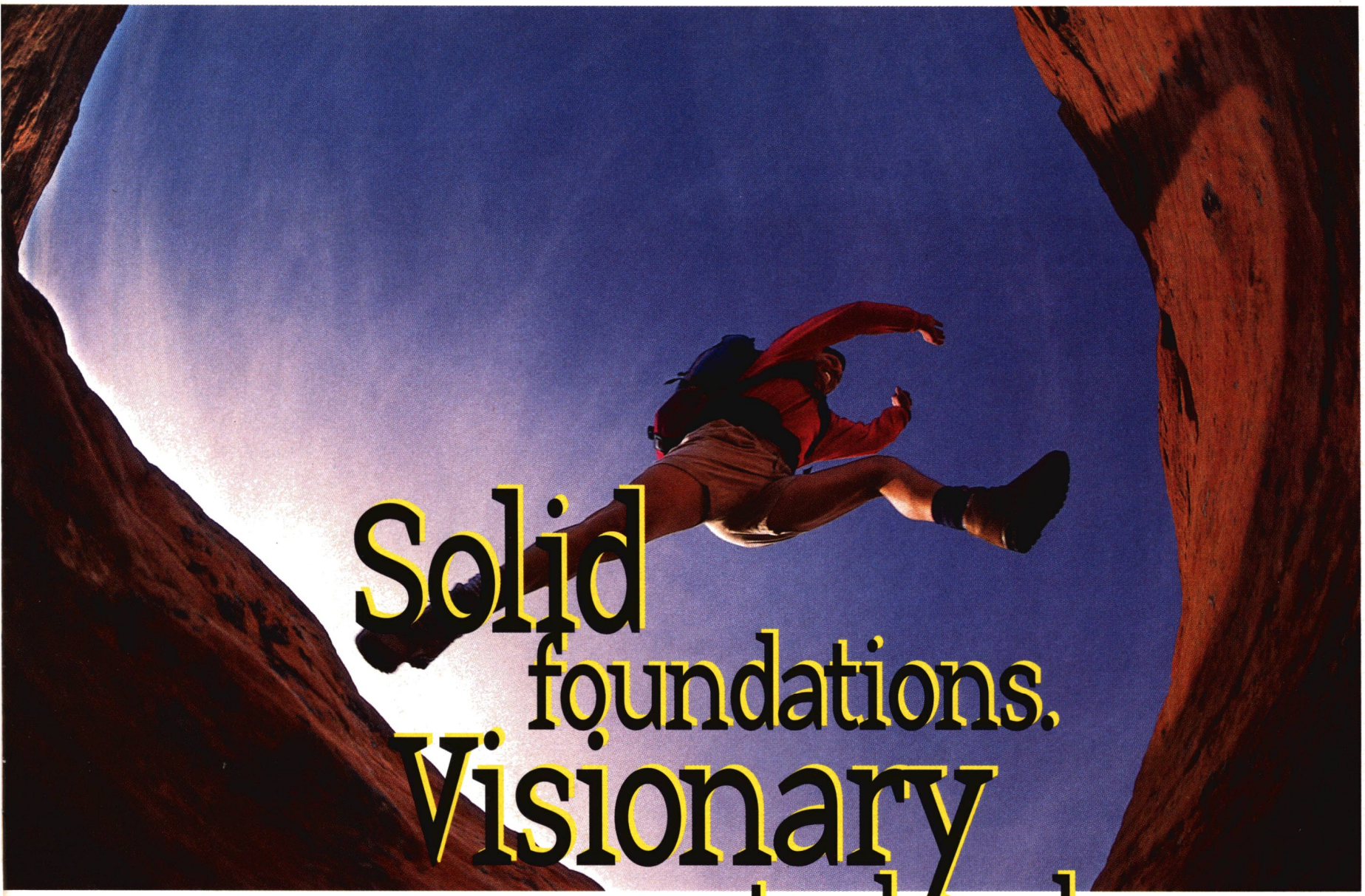
Truevision Inc. of Santa Clara, Calif., July 30 announced its year-end results, which marked a return to profitability.

Revenue from the fourth quarter of 1996, which ended June 29, was $17.5 million, a 7 percent increase from the $16.3 million for the same quarter in 1995. Earnings were $1.3 million, or 10 cents per share, compared with $32,000 in the year-ago quarter.

The digital video manufacturer's revenue for the year was $71.5 million, up 8 percent from $66.3 million in fiscal 1995. Net income was $3.6 million, or 27 cents per share, compared with a net loss of $20.2 million, or $2.12 per share, last year.

"They are definitely doing better," said Kevin Yen, associate analyst at investment bank Adams, Harkness and Hill Inc. in Boston. "This is their fifth consecutive quarter of positive earnings. Given their history with RasterOps, this is a tremendous improvement." (See story, Page 8.)

Yen added that the target areas of corporate and desktop video are among the fastest growing segments of the digital video market. "I think they're at an inflection point — they will be changing the slope of the line," Yen said. "This year and next year we should see some real growth." — *By Kelly Ryer*



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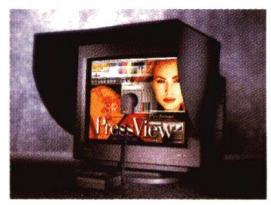
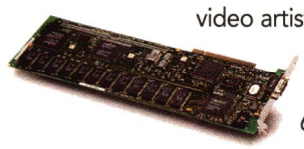


The ThunderPower 30/1920 PCI graphics card offers blazing performance and the highest screen resolution available on any platform, making it perfect for illustrators, video artists and design professionals. It features 6 MB of video memory and up to 1,920 by 1,080-dpi resolution.



It's the perfect complement to the PressView color reference display system. PressView has the accuracy, resolution and clarity needed for color prepress, media authoring, photography and more. Its high-quality DiamondTron aperture-grille CRT supports resolutions as high as 1,600 by 1,200 pixels.

Together, PressView and ThunderPower are four times faster than any other combination on the market. If you're looking for professional, WYSIWYG color and rock-solid reliability, whether for yourself or for your customers, Radius requires no leap of faith. So call your local retailer or Ingram Micro at 1 (800) 456-8000.

Resellers can earn a free PressView 17-inch monitor (a $1,700 value) by purchasing any five of the nine qualifying bundles of PressView or PrecisionView monitors with ThunderColor or PrecisionColor cards from Ingram Micro now through September 27, 1996. Call your sales representative at 1 (800) 456-8000 for details.*

*End users can jump on this deal: Purchase any Radius monitor with a Radius PCI graphics card and receive Fractal Design's Poser, the best way to integrate the human figure into design, and E-magine's ProView, the world's easiest multimedia authoring tool, for free (a $198 value). Just fax proof of purchase to Radius' Better Than Ever * Summer Promotion at (714) 566-7812.*

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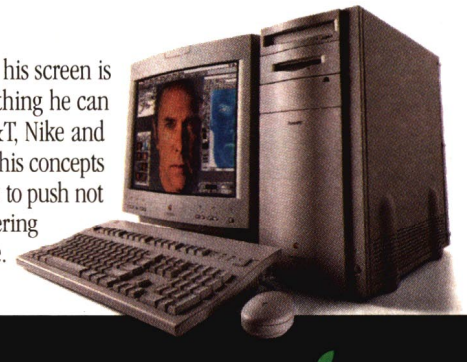

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StarNine to style mail

Quarterdeck to add POP tool

By Joanna Pearlstein

At last week's Macworld Expo, StarNine Technologies, a division of Quarterdeck Corp., unveiled plans to add text styles and rules to its e-mail system.

Expected to ship in September, Version 4.0 of Quarterdeck Mail, formerly known as Microsoft Mail for AppleTalk Networks, will be native on the Power Mac and offer the capability to save files as HTML documents; search messages by sender, subject, date or text; and save and print outgoing messages.

The product will also let users change the font, size, style and color of text in messages. Those styles will be lost when read with an older version of the client or when sent through a gateway, StarNine said. In addition, Version 4.0 will add support for scripting via Apple events, Macintosh Drag and Drop, and signatures.

Users will be able to choose whether the client displays Mac-standard command keys or legacy Microsoft Mail command keys. They will also be able to find and replace text in messages.

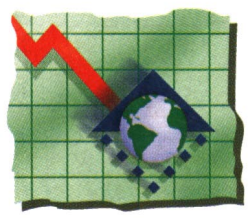
For the first time, StarNine will provide the capability to check e-mail via Post Office Protocol 3 (POP 3). The company will offer the QDMail POP Conversion Servlet, a utility that will let Mac, Windows and DOS users access their mail via a POP 3 client.

See Quarterdeck, Page 16

NEWS ANALYSIS

Mac dependence stings: Global expands PC focus

By Don Monkerud



Long a Mac holdout in a traditionally platform-independent market, Global Village Communication Inc. is rethinking its Macintosh focus and expanding its Intel-standard PC offerings.

For the first time in 13 quarters, Sunnyvale, Calif.-based Global Village reported a loss. For the first fiscal quarter of 1997, ended June 30, the company reported a net loss of $5.1 million on revenues of $30.4 million. This compares to a net income of $1.6 million and revenues of $29.3 million in the first quarter of fiscal 1996.

Gross margins last quarter decreased to 25.1 percent from 45.1 percent a year ago.

President and CEO Neil Selvin attributed the company's loss to Apple's repair program for the PowerBook 5300 and 190.

According to Global, because the majority of its PowerPort PC Card modems are purchased at the same time as the laptops, the lack of PowerBooks in stores resulted in fewer sales. The company's PowerPort cards produced $16 million in revenue in the previous quarter.

"According to [Apple CEO Gil] Amelio, unit sales are expected to be flat this year," Selvin said. "We don't expect to return to profitability until December."

For the company to sustain growth, observers said, it must overcome its dependence on the Mac. "Very clearly their prospects have dimmed," said Doug Whitman, president of Whitman Capital in San Francisco. "The stock will rest until Global Village gets its percentage of revenue from Apple down, or until Apple turns itself around."

Global's efforts in the PC market include OEM deals for fax

See Global, Page 16

RunShare teamed with Dayna cards

By James Staten

Dayna Communications Inc. last week signed a deal with Run Inc. that promises to speed its Fast Ethernet offerings by as much as 500 percent.

Dayna is now including a full copy of RunShare 2.0 with its BlueStreak Fast Ethernet NuBus, PCI and LC processor direct slot cards. Priced at $399, RunShare from Mahwah, N.J.-based Run Inc. is designed to increase Fast Ethernet throughput via a proprietary transport protocol (see 04.15.96, Page 24).

Dayna said RunShare will let users transfer large files significantly faster than is possible over standard Fast Ethernet connections and about 40 percent faster than a card from Asanté Technologies Inc. of San Jose, Calif., equipped with that company's Net Doubler.

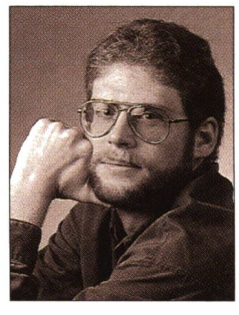
A price increase will not accompany the bundle.

To further improve performance, Dayna last week shipped Version 2.0 of the driver for its $175 BlueStreak 10/100 PCI card; it provides 40 percent faster throughput, according to the company.

Dayna Communications Inc. of Salt Lake City can be reached at (801) 269-7200; fax (801) 269-7363; info@dayna.com; http://www.dayna.com. □

WORKING THE NET ADAM C. ENGST

Who really needs LAN mail, anyway?



This month we turn to the use of Mac-based Internet mail servers in intranets. Internet mail servers offer two main advantages over LAN e-mail packages: price and functionality.

Many companies already use proprietary LAN e-mail packages that can access the Internet via expensive and trouble-prone gateway software. Keeping up with upgrades is especially expensive, since repeatedly outfitting an entire company adds up fast.

Contrast that with the price of one common intranet e-mail solution: The Apple Internet Mail Server (AIMS) is free at http://cybertech.apple.com/ and supports Post Office Protocol (POP) and SMTP (Simple Mail Transfer Protocol), the main Internet e-mail standards. AIMS works well for up to a few hundred users; after that, I've heard reports of instability. Client software doesn't increase the price if you use the free Eudora Light from Qualcomm Inc. of San Diego, although a Eudora Pro site license might be worthwhile for the software's filtering capabilities.

If your network has only a single Mac connected to the Internet via a dedicated modem connection, Chris Owen's $10 shareware AIMS LocalTalk bridge can connect copies of Eudora with the Internet via AIMS.

E-mail on the cheap

Other intranet e-mail servers are also inexpensive. CommuniGate from Stalker Software of Mill Valley, Calif., offers excellent flexibility with its modules for POP, SMTP and Unix to Unix Copy Program (UUCP). CommuniGate can even route e-mail to pagers,

See Engst, Page 16

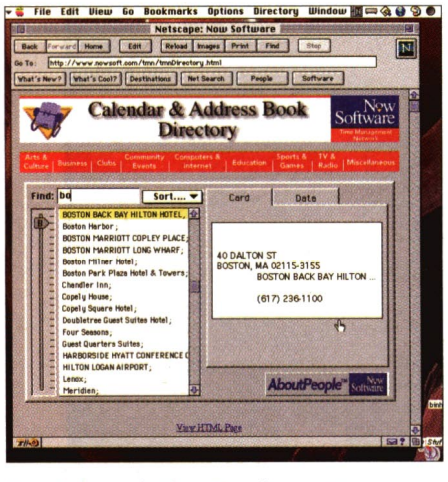
It's AboutTime, People

By John Poultney

Now Software Inc. this month will release two free Netscape Navigator plug-ins aimed at bringing scheduling and contact management to the Web.

AboutTime and AboutPeople will let users access calendars and contact lists that have been posted on the Web using Now's Up-to-Date Web Publisher (see 04.15.96, Page 6).

AboutTime will let users switch among month, week, day and detail views, and drag-and-drop events from Web-posted calendars to their own Now Up-to-Date documents.



Now Software's AboutPeople uses Netscape Navigator to view contact lists. Its counterpart, AboutTime, does the same for scheduling.

AboutPeople will let users pull contact information from Web documents and import them directly into the Now Contact address book.

The plug-ins can be downloaded from Now's Web site at http://www.nowsoft.com.

Now Software Inc. of Portland, Ore., can be reached at (503) 274-2800 or (800) 689-9427; fax (503) 274-0670; info@nowsoft.com. □

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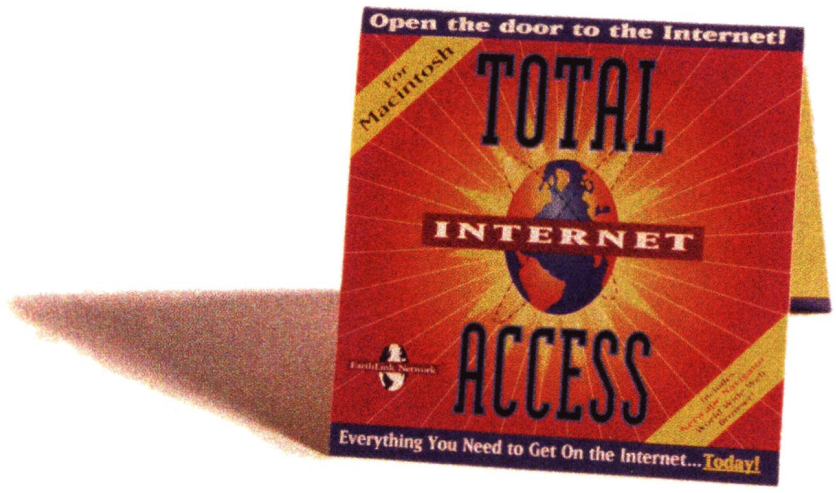

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Global

From Page 14

software with several PC computer makers, and its new offering, FocalPoint, a Windows-based application that integrates fax, data, voice mail, e-mail and Internet data.

In June, Global Village signed an agreement with New York-based Ex Machina Inc. to market and distribute wireless hardware, and in January the company bought KNX Ltd., an ISDN company based in Skipton, England. In addition, Global in April spun off GlobalCenter Inc., its Internet-access service for small businesses.

"In September [1995], 12 to 15 percent of Global Village's revenue came from the Windows side," said Rakesh Sood, technology analyst for Hambrecht & Quist in San Francisco. "Windows sales are now closer to 20 percent of total revenue and they are increasing. There's a greater opportunity on the Windows side of the house."

While Global Village is expanding into the Windows market, the Mac market is the company's mainstay, with a 75 percent share of the Macintosh modem market. In addition to its retail sales of Mac products, Global Village also bundles its 28.8-Kbps fax modem with Performa models.

Analysts said Global Village has leveraged these products by focusing on reliable, intuitive software and by charging premium prices for its modems. Although no company is challenging its market dominance, analysts said Global Village needs to continue to develop products for Macintosh users as the company moves into Intel-standard markets.

Tim Sloane, analyst with the Aberdeen Group in Boston, said, "In the medium term, Global Village needs to generate revenue from the Apple market with higher margins to fund their movement into the PC Windows environment."

On the innovation side, Global Village was one of the last companies to market a 28.8-Kbps modem, and the company still has not announced its plans for products offering 33.6-Kbps throughput or ISDN. It is already behind many of its competitors that have produced those products or have announced plans to do so.

According to Tim Bajarin, president of Creative Strategies in Santa Clara, Calif., products are slow to roll out for a reason. "Global Village can't take leading-edge positions until standards have been fully accepted," he said. "They aren't large enough to take a hit by gambling on missing the market." □

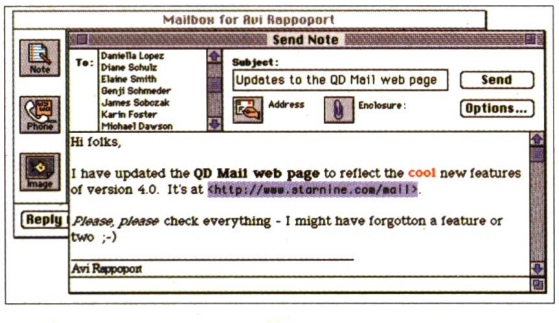
Quarterdeck

From Page 14

Changes to the Quarterdeck Mail Server include the addition of a native Power Mac version and synchronization of local and server passwords. Now a full application, the server will let users specify Out of Office messages to send to each address that sends them mail.

The Version 4.0 client is expected to cost $159 for a five-pack; the server will cost about $259. Upgrades from Version 3.6 are $8 per user for the client and $195 for the server.

StarNine Technologies, a division of Quarterdeck Corp. of Marina Del Rey, Calif., can be reached at (510) 649-4949 or (800) 525-2580; fax (510) 548-5959; info@starnine.com; http://www.starnine.com. □



Version 4.0 of the Quarterdeck Mail client will let users change the font, size, style and color of text in an e-mail message.

Focus aims at Fast Ethernet

By James Staten

Focus Enhancements Inc. will get into the Fast Ethernet business in September by shipping three 100-Mbps products.

The Lightning 1100, priced at $159, will be a PCI card with Mac and Windows drivers. It will determine the LAN speed and switch between 10 Mbps and 100 Mbps on the fly.

The company also announced two hubs. The Lightning 8100 TX Hub, priced at $1,095, will feature eight Fast Ethernet ports and one 10-Mbps link. The Lightning 4100 Hub S, for $1,799, will have four 10-Mbps ports and one 100-Mbps port.

Focus Enhancements Inc. of Woburn, Mass., is at (617) 935-1515; fax (617) 938-7741. □

Engst

From Page 14

faxes and printers. Stalker's server isn't free, but a fully functional demo version is available at http://www.stalker.com/. Since CommuniGate supports POP and SMTP, Eudora Light can stand in for CommuniGate's client program, CommuniGator.

The $299 OfficeMail from Claris Corp. of Santa Clara, Calif., is perfect for small offices that lack Internet connections. It's simple to set up and supports up to 100 users. OfficeMail includes five copies of Claris Emailer, but since it supports POP and SMTP, Eudora Light is a free alternative. OfficeMail supports Internet e-mail only via a UUCP connection to ClarisLink ($39.95 per month and $5.95 per hour after 10 hours). You can't use OfficeMail as a full-fledged SMTP server with an existing permanent Internet connection, but you can modify its configuration files to work with other UUCP servers.

Choices for intranet e-mail servers continue to increase with the $495 ($199 if you buy another server at the same time) Sonic Mail from Sonic Systems Inc. of Sunnyvale, Calif. Also, Tenon Intersystems of Santa Barbara, Calif., announced last week that it has acquired the rights to bring Software.com Inc.'s Post.Office Internet mail server to the Mac. It will initially release it as a product for use with its MachTen implementation of Unix for the Mac, but it plans to release a true Mac version later this year named NetTen.

Special features

These Internet mail servers sport features not generally available from LAN e-mail packages, and the Internet e-mail clients are generally better than the proprietary clients, aiding the argument for intranet e-mail.

AIMS, for instance, can forward e-mail to simple distribution lists from the server. Other options are available, so you can forward to another address (useful when an employee leaves the company), save messages as files or as an archive, or notify users of new mail. □

Adam C. Engst is editor of TidBITS and author of "Internet Starter Kit for Macintosh." He can be reached at interq@macweek.com or http://www.tidbits.com

MODEM BEAT

Zippy connectivity. ActionTec Electronics Inc. of Sunnyvale, Calif., is bringing 33.6-Kbps transmissions to portable users. The company this month shipped the $239 DataLink PC Card 33.6 fax modem. Aimed at users of PowerBook 5300 and 190 systems, the card supports the new V.34+ standard recently ratified by the International Telecommunications Union, as well as the V.34 and V.Fast standards. Phone (408) 739-7000; fax (408) 739-7001; http://www.actiontec.com.

The Quicktel II

Speak, modem, speak. Logicode Technology Inc. of Camarillo, Calif., in July began shipping a pair of 28.8-Kbps fax modems with full-duplex speakerphones. The $299.95 Quicktel II Speakerphone has LEDs to indicate system status, and the $359.95 model includes an LCD that can relay more than 100 status messages. The modems provide voice-mail features, including multiple mail boxes, remote retrieval of messages and the ability to choose which incoming calls to answer. Phone (805) 383-2500 or (800) 735-6442; fax (805) 383-2508; http://www.logicode.com.

In the palm of your hand. Newer Technology Inc. is offering an external fax modem for PowerBook users. The Wichita, Kan., company last week rolled out the LinkCom, a palm-size 33.6-Kbps fax modem weighing 4.3 ounces. Priced at $185, the modem gets power from the computer's ADB port. Phone (316) 943-0222 or (800) 678-3726; fax (316) 943-0555; sales@newertech.com; http://www.newertech.com.

Viking sets course for laptops. Another new modem for portable users comes from Viking Components Inc. of Laguna Hills, Calif. The company last month shipped the $240 NetLink 28.8 PC Card fax modem. The product can send and receive data at speeds up to 28.8 Kbps and can transmit faxes at 14.4 Kbps. Phone (714) 643-7255 or (800) 338-2361; fax (714) 643-7250; http://www.vikingmem.com.

A modem runs through it. Motorola Inc.'s Mobile Computing Products Division recently shipped its Mac version of Montana, a 28.8-Kbps PC Card fax modem. Priced at $289, the modem works with PowerBook 5300- and 190-series laptops. It can transmit data at speeds up to 28.8 Kbps and faxes at speeds up to 14.4 Kbps. Montana comes with the MacComCenter telecommunications package from Smith Micro Software Inc. of Aliso Viejo, Calif. Phone (847) 538-5200 or (800) 427-2624; http://www.mot.com/MIMS/ISG/.

Price cut from Practical. Practical Peripherals Inc. of Norcross, Ga., in July cut the price of its MacClass 288 PC Card with EZ-Port by 14 percent, from $289 to $249. The 28.8-Kbps fax modem features the EZ-Port, a pop-out RJ-11 adapter. Phone (770) 840-9966; fax (770) 734-4601; http://www.practinet.com.

— By Joanna Pearlstein

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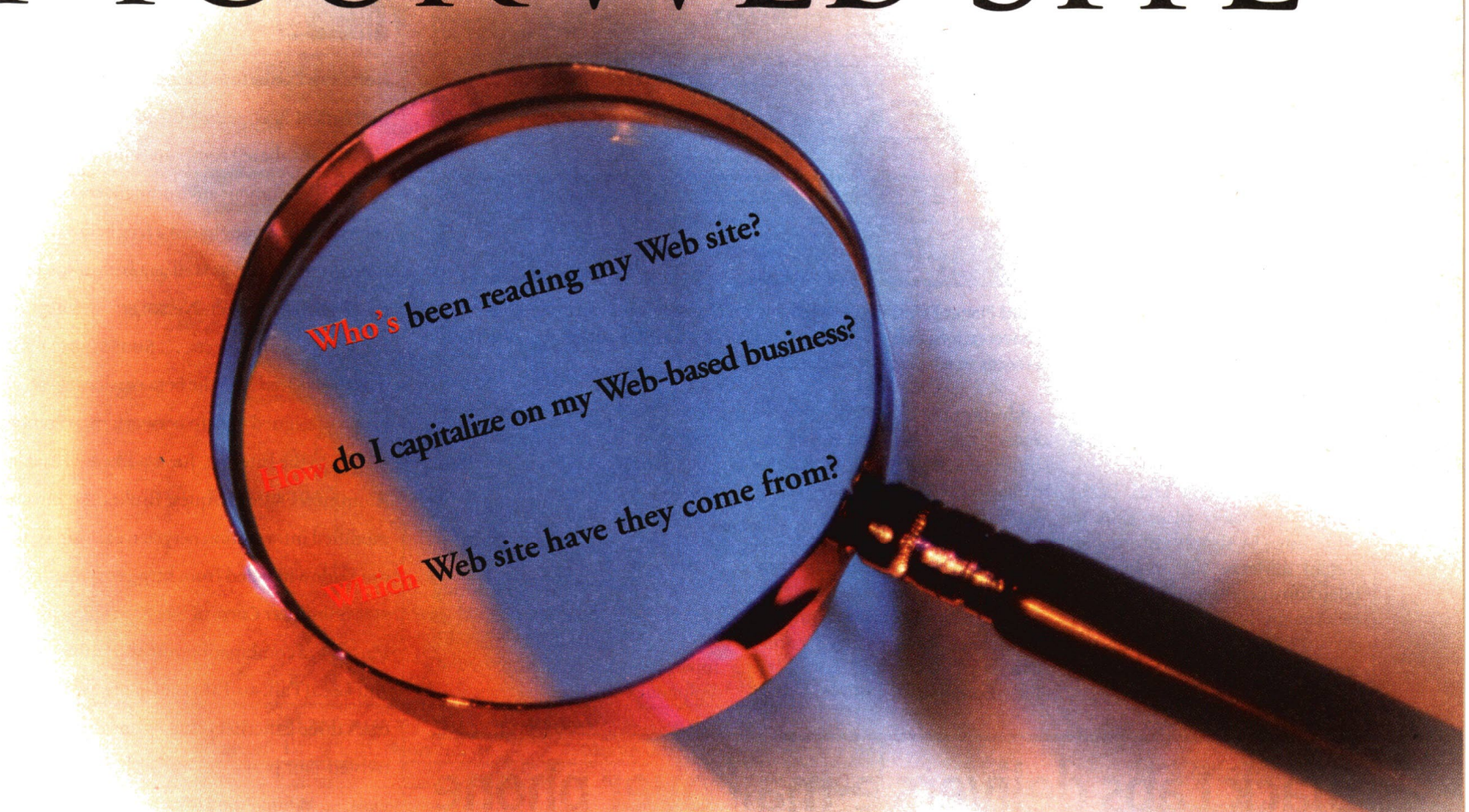

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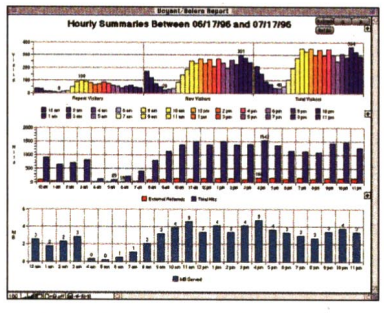
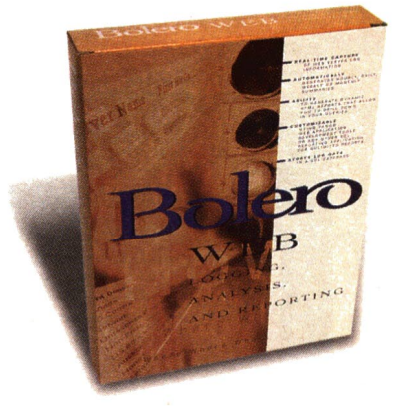
- Ability to perform aggregate summaries of any time period so that you can analyze your trends over an extended period of time
- Built-in Domain Name resolution that takes the load off your Web server
- Ability to log multiple Web servers simultaneously, allowing you to compare the activity and performance of all your Web servers
- Includes versatile report generation tools—Voyant and CLEAR:Access



In addition, Bolero provides numerous pre-defined reports and graphs so you can begin analyzing your Web activities immediately. Plus, Bolero's open SQL database gives you the ability to generate customized reports, with unlimited reporting options.

The bottom line? Bolero lets you stay on top of Web site activities—providing the right information at the right time, so you can make informed decisions.

For an even closer look at Bolero, call us or visit our Web site today!



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DigiPhone makes debut

New tool for Mac Internet telephony

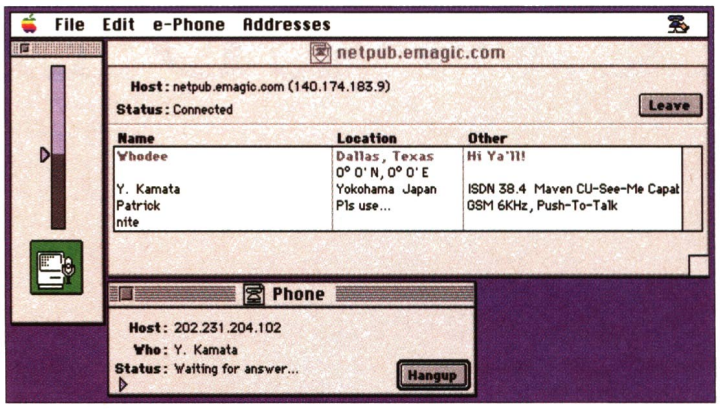
By James Staten

Mac Internet telephony users can now screen their calls and dial users directly, thanks to a new product from The Third Planet Publishing Inc.

DigiPhone for Mac, priced at $95 and shipped at Macworld Expo in Boston last week, is a full-duplex, cross-platform speech transmission tool. It encrypts a connection and provides call muting, a personal phone book and the capability to adjust sound quality to block out background noise.

The tool's Direct Dial Technology lets users place calls to other users by simply entering an e-mail address. Other Internet telephony products require users to visit an Internet Relay Chat server, locate the user online and then initiate the connection.

DigiPhone displays the e-mail address of the caller, allowing the receiver to either answer the call or refuse it by sending the caller a quick reply asking the person to leave an e-mail message.



Third Planet Publishing's DigiPhone for Mac lets users carry on full-duplex conversations over the Internet. Users can adjust the sound quality via Preferences to cut down on background noise.

Users of e-Phone for the Mac can upgrade to DigiPhone for $19.95. Previously known as NetPhone, e-Phone was acquired by Camelot, Third Planet's parent company, in October from New Paradigm Software of New York. New Paradigm had acquired it from The Electric Magic Co. of San Francisco earlier that month (see 07.10.95, Page 22).

Camelot said DigiPhone was developed using code from e-Phone and DigiPhone for the PC.

The Third Planet Publishing Inc. of Dallas can be reached at (214) 733-4790; fax (214) 380-8712; 3pp@planeteers.com; http://www.digiphone.com. □

Black Labs delivers e-mail over phone

By James Staten

Users of SoftArc Inc.'s FirstClass groupware system will soon be able to listen to their e-mail messages.

Last week at Boston's Macworld Expo, Black Labs Inc. unveiled VoiceLink, a system that will use PlainTalk, Apple's text-to-speech technology, to read FirstClass e-mail messages to users over the phone. Due in September, VoiceLink will be a server-based system that works with the FirstClass server from Markham, Ontario-based SoftArc.

To use the system, users will call the VoiceLink server and enter either their FirstClass user name and password or shorter log-in information. The server will then connect to the FirstClass server and retrieve the user's waiting messages. After listening to a message, users will be able to record a reply that will be sent as a sound attachment.

Users will also be able to set criteria to select which messages to hear. In VoiceLink's Watch For mode, the product will apply the criteria to determine whether to notify users about the messages via phone, pager or fax. Long messages will be forwarded to a fax machine or left in e-mail.

The company said messages can be sent from VoiceLink as well. To select message recipients, FirstClass provides a feature in the program's member directory that will allow users to enter the first few letters of a member's name and have VoiceLink read back names that match the letters typed.

Sound compression will be used to reduce the size of voice messages, according to Black Labs. The system will compress sound to about 1 Kbyte per second of audio.

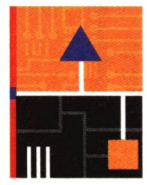
VoiceLink will be priced at $500 for a five-user license. Additional five-user licenses will be priced at $200, and a 500-user license will cost $7,500.

Black Labs said it plans to offer versions of VoiceLink for QuickMail from CE Software Inc. of West Des Moines, Iowa, as well as Internet mail servers later this year.

Black Labs Inc. of Boulder, Colo., can be reached at (303) 938-8580; fax (303) 938-8546; sales@blacklabs.com; http://www.blacklabs.com/blacklabs. □

With VoiceLink, SoftArc FirstClass users will be able to have e-mail messages read to them over the phone. Users will tell VoiceLink what types of messages to read through this FirstClass form.

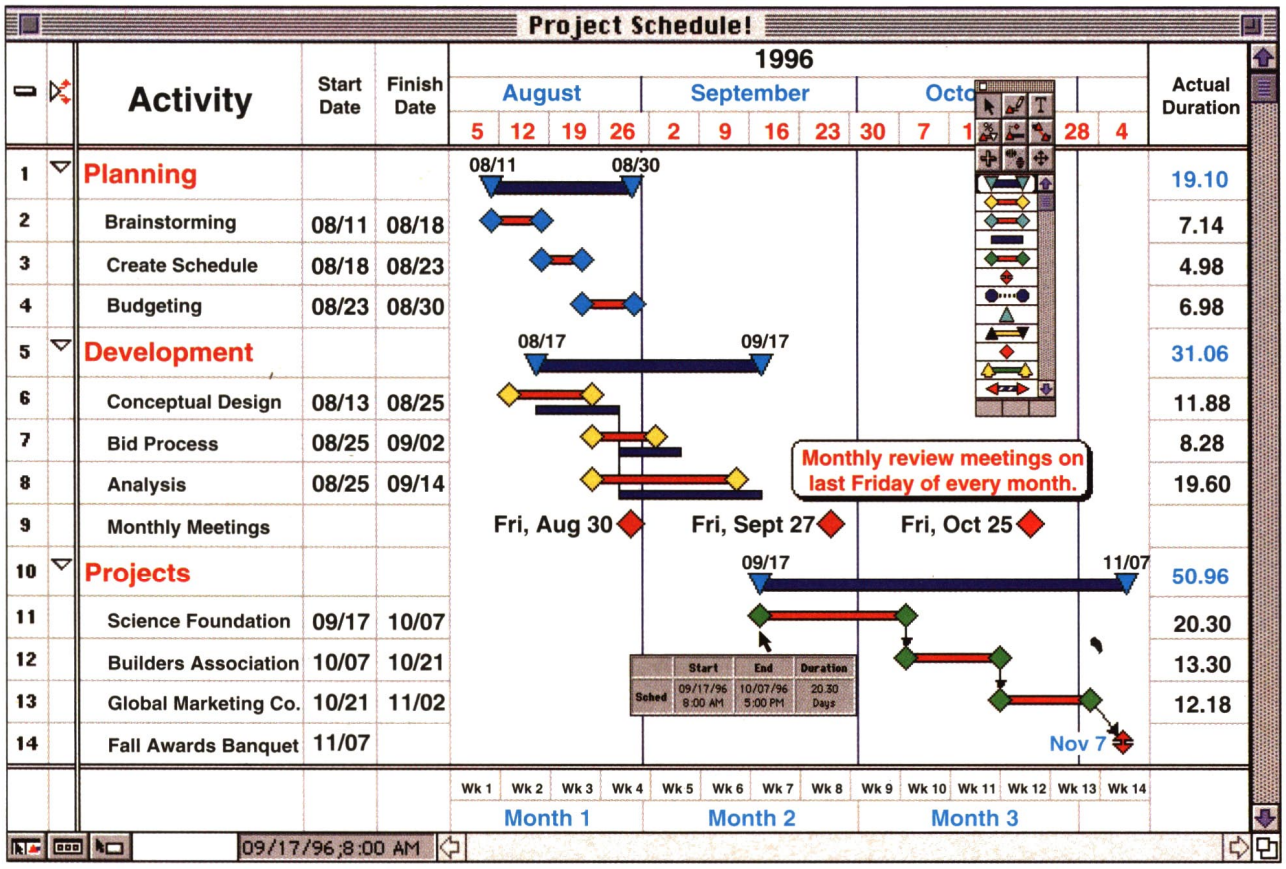
NETWORK TRAFFIC



- **Netscape readies world for Navigator 4**
- **Joe helps connect apps to Internet**
- **Webster ships server-router combo**

Netscape Communications Corp. is getting the world ready for the first beta of Navigator 4.0, code-named Galileo. In July the Mountain View, Calif.-based company announced Netscape ONE, a client-server development environment based on Internet standards. The company also brought out a free beta version of a development environment for ONE as well as a beta of JavaScript 1.1, which adds support for LiveConnect, Netscape's architecture for interoperability among software objects. ... **SunSoft Inc.** of Menlo Park, Calif., this month released a public beta version of Joe, a Java-based object request broker designed to help network managers connect applications and servers to the Internet. Joe is a free tool that is compliant with CORBA (Common Object Request Broker Architecture) and carries only modified information between existing systems and Web browsers. It can be downloaded from http://www.sun.com/sunsoft/neo. ... **Webster Computer Corp.** of San Jose, Calif., this month shipped the MultiPort/LT, a combination router, remote-access server, modem server and LocalTalk-to-Ethernet gateway. Priced at $1,995, the device features three Ethernet ports — one thick, one thin and an autosensing twisted-pair port — as well as four ports for LocalTalk or modem devices. ... **White Pine Software Inc.** and **Microsoft Corp.** announced in July a strategic agreement to integrate White Pine's Enhanced CU-SeeMe videoconferencing software with Microsoft's Internet Explorer. Through the alliance, users will be able to launch Enhanced CU-SeeMe from within Internet Explorer to chat with other users. The agreement between Nashua, N.H.-based White Pine and Redmond, Wash.-based Microsoft also involved Four11 Inc., an Internet directory service in Menlo Park, Calif., which will provide a directory to help users locate each other. ... **Farallon Communications Inc.'s** Timbuktu Pro remote-control application has been swept up into Apple's QuickTime Conferencing Kit. Apple said its next version of the Internet Connection Kit will also include the Look@Me applet and Web browser plug-in from Alameda, Calif.-based Farallon. Both Apple kits are scheduled to ship later this year. ... Web browsers can now surf safely thanks to **Finjan Software Ltd.** of Berkeley, Calif., which in July shipped the first security enhancement for Java. Priced at $49, SurfinBoard is a Java applet that scans all incoming Java applets to ensure they do not execute malicious commands or attempt to invade the user's machine. The applet warns the user about suspicious activity or security breaches and can automatically kill applets before they execute. ... **Apple** in July licensed its Asynchronous Transfer Mode (ATM) application programming interface to Fore Systems Inc. Warrendale, Pa.-based Fore Systems said it will use the API to develop native ATM applications for the Mac and Unix platforms. No specific product plans have been set. □

You can't stay on schedule if you don't have one.


Project Schedule!
1996
August
September
Activity
Start Date
Finish Date
Actual Duration
1 Planning 08/11 08/30 19.10
2 Brainstorming 08/11 08/18 7.14
3 Create Schedule 08/18 08/23 4.98
4 Budgeting 08/23 08/30 6.98
5 Development 08/17 09/17 31.06
6 Conceptual Design 08/13 08/25 11.88
7 Bid Process 08/25 09/02 8.28
8 Analysis 08/25 09/14 19.60
9 Monthly Meetings
10 Projects 09/17 11/07 50.96
11 Science Foundation 09/17 10/07 20.30
12 Builders Association 10/07 10/21 13.30
13 Global Marketing Co. 10/21 11/02 12.18
14 Fall Awards Banquet 11/07
Monthly review meetings on last Friday of every month.
Fri, Aug 30
Fri, Sept 27
Fri, Oct 25
Nov 7
Start
End
Duration
Sched
09/17/96 8:00 AM
10/07/96 5:00 PM
20.30 Days
Wk 1 Wk 2 Wk 3 Wk 4 Wk 5 Wk 6 Wk 7 Wk 8 Wk 9 Wk 10 Wk 11 Wk 12 Wk 13 Wk 14
Month 1
Month 2
Month 3
09/17/96 8:00 AM

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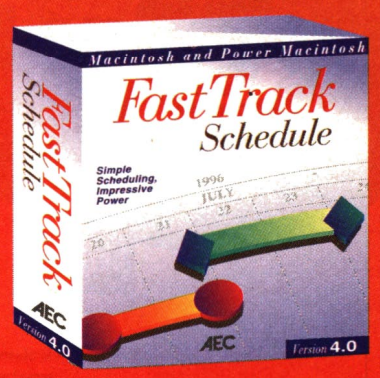


ISDN coming into Mac mainstream

By April Streeter

Once used mainly in pre-press environments to boost the speed of file transfers between sites, ISDN lines are now turning up in businesses of all shapes and sizes to help form low-cost WANs or to speed companies' Internet connections.

IDC reports that about 7 percent of large corporations use ISDN for Internet access.

In a recent forecast of ISDN usage through the end of the decade, International Data Corp. of Framingham, Mass., divided ISDN applications into seven categories. Of these, IDC predicted that Internet access, telecommuting and LAN bridging would be the primary forces behind ISDN's growth rate of about 60 percent per year (see chart, Page 22).

Of these three, it is the use of ISDN for Internet access that has flourished virtually overnight, fueled by the growth of the Internet for business uses.

"ISDN as a way for companies to access the Internet has only begun to be a viable alternative over the last year," said Caroline Robertson, IDC program manager. "That's both in terms of ISDN being more available as a service and also supported by ISPs [Internet service providers]."

ISDN's increased usage doesn't make it a hassle-free solution, however. Aside from the hurdles prospective users must clear to have ISDN lines installed by the phone company, managers also face the question of which type of ISDN connection is best in terms of cost and ease of use. For pre-press, an ISDN adapter connecting each site that will transfer files is still the best choice. Other businesses with less taxing needs can choose lower-cost ISDN terminal adapters, also known as ISDN modems. When many users must share, an ISDN-supporting router or remote-access server can be used.

In all three categories, product improvements and new market entries are helping to ease the traditional ISDN headaches. The latest release of AppleTalk Remote Access, Version 2.1, supports ISDN, which should facilitate Mac-based remote access using ISDN lines. Companies such as Motorola Inc.'s Information Systems Group of Huntsville, Ala., maker of the Bitsurfr Pro, and 3Com Corp. of Santa Clara, Calif., with its ImpactIQ, are providing improved software to help get their ISDN modems more easily installed. Finally, a standard initiated by Shiva Corp. of Burlington, Mass., to help manage ISDN bandwidth should show up in routers and access servers later this year (see story, Page 22).

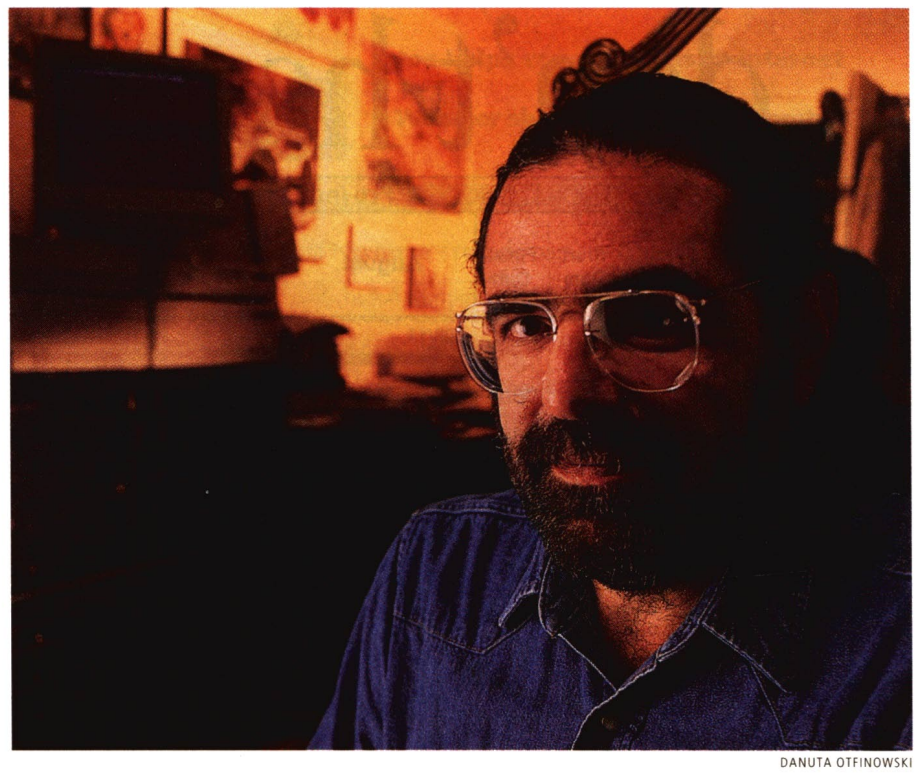
Nobody's perfect

ISDN isn't perfect yet, as the users interviewed for this story readily attest. The monthly charge for a Basic Rate Interface (BRI) ISDN line may not run a company much more than its plain, old analog lines, but an ISP's ISDN rates can fluctuate, and per-call long-distance charges can still cause a fright when the bill arrives at the end of the month. Also, unlike regular lines, ISDN lines depend on electrical current, which means users can't depend on them if the power goes out.

In the future, ISDN might even be preempted for some uses by Digital Subscriber Line (DSL), a service that runs over regular phone lines, doesn't require external power, and can transfer data at between 1 and 6 Mbps. Several phone companies are starting DSL trials, but initially DSL's drawbacks will include expensive modems and very short (a few miles) maximum transfer distances. At least for the near term, ISDN seems the best thing going.

A BRI line provides two 64-Kbps channels for data transmission, which can be joined together to create 128 Kbps of bandwidth. That means managers can count on each ISDN line delivering about 1 Mbyte of data per minute of bandwidth.

"Unless you add compression, and depending on which software you are using to do the transfer and how much overhead — from AppleTalk, for example — you might add, a meg a minute is about what you will get," said Tom Barich, an ISDN consultant for CD Express Inc. in San Diego. That's nowhere near what you might expect on a well-designed Ethernet LAN, but it is about four times what you could achieve with an analog modem line.



DANUTA OTFINOWSKI

H. Buff Herr of the New York consulting company Projects "jumped in with both feet" when he found out that Netopia's router was the easiest way to get a fast ISDN connection for the company's six employees without upgrading the LocalTalk network.

Rocking steady

More than a year ago, Dave Ginsburg decided it was finally time to trade in his tired, old 9,600-bps modem. A vice president at Virtual Netcasting Corp. in Los Angeles, Ginsburg said he spends about five hours a day connected to the Web and needed a lot more speed in the connection from his home office to the Internet. He looked at the selection of 28.8-Kbps modems available, but, weary of the endless telephone line-quality problems he'd experienced, decided to make himself an ISDN guinea pig.

"I'd been hearing about ISDN, but at the time I started there weren't many what I'd call individual users," Ginsburg said. 3Com had released the Mac version of its Impact IQ ISDN terminal adapter, with necessary Mac cables and software, and after some research

See ISDN, Page 22

ILLUSTRATIONS BY TARKKANEN JACKSON/LSD

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ISDN

From Page 20

Ginsburg also found a service provider that supplied relatively low-cost ISDN Internet connectivity. So far, so good.

However, getting the BRI line, the terminal adapter and the ISP to all work together was hellish, Ginsburg said. He got a successful connection only after hours of tinkering and phone-company negotiations.

"First, I advise researching and choosing your ISP carefully. Make sure they really support Mac users, then order your service correctly, and there's no reason why anybody can't be up on ISDN," he said.

Ginsburg said the difference between trying to manage Virtual Netcasting's two Web sites or attempt file downloads and uploads with his old modem compared with his ISDN terminal adapter still astounds him.

"I can get connected in about five seconds and sail through sessions with Netscape Navigator," he said. "Instead of waiting and waiting for graphics to appear, things just happen. I don't know any modem you can do that with." While ISDN terminal adapters can't match the small form factor of today's modems (which are about the size of a videotape), Ginsburg said he'll never own a modem again, if he can help it.

In fact, he has so much confidence in the quality of ISDN connections that he bought another Impact IQ to use for a critical business application. One of Virtual Netcasting's two servers, L.A. Live, is a Web site that lets users listen to live audio simulcasts of rock concerts. To get the music from the concert location to the server, Ginsburg takes the Impact IQ terminal adapter, which he plugs into a pre-installed ISDN line at concert sites. "We take the live music, feed it through an encoder and through the 3Com box out to the Internet and our site," Ginsburg said.

A tale of two ISDN prices

At sites where an ISDN connection will be used to connect a network to the Internet or to a branch office, routers with one or more ISDN ports can be had from all the major vendors, including Shiva; Ascend Communications Inc. and Farallon Communications Inc., both of Alameda, Calif.; and Cisco Systems Inc. of San Jose, Calif.

For H. Buff Herr of New York-based Projects, a communications consulting company, Farallon's Netopia router helped provide a fast ISDN Internet connection for the company's half-dozen employees without having to upgrade its LocalTalk network.

"We are a fully Mac shop, but I was not looking to convert all my units to Ethernet just to go up on ISDN," Herr said. "The fact that Netopia could run on a LocalTalk network attracted me, and I jumped in with both feet."

Herr said his experience with Farallon in installing and using the router was nearly painless, and Internet connectivity was sublime. "Coming off 28.8[-Kbps] modems [to ISDN] was the difference between night and day," he said. "And the decision whether to download a file, the time issue, disappeared with the added bandwidth."

The one drawback was cost. Herr said his ISDN provider, Nynex, charges a low monthly fee, but there is also a slight fee to initiate each call, plus a one-cent-per-minute charge for each B channel, all of which can add up.

"It makes ISDN in Nynex-land a bomb waiting to explode," he said. "Until someone wakes up on rates, it is great for light usage but financially self-destructive for [small] office setups." Herr said he even stopped recommending ISDN to his clients in favor of leased lines.

At the opposite end of the spectrum is the experience of Affinity Technology Group Inc., a manufacturer of automated loan machines (similar to automatic tellers) located in Columbia, S.C. Affinity needed to connect its head office with its manufacturing site 10 miles away in West Columbia. The company originally planned to install a new server in West Columbia and use analog modems and a remote-access server to connect the 30 Macs and Intel-standard PCs between the two sites.

But Patrick Matzelle, system support specialist, convinced the company that an ISDN line between two Shiva Integrator 100 routers would do the job for a lot less. Affinity's provider, Bell South, charges less than $100 per month for an ISDN line that includes unlimited local calls. "There wasn't any resistance once I explained this is how it would go," Matzelle said. "That $100 per month is literally nothing, and the cost of the whole thing, hardware and all, was pretty small. I think people figured we can just scrap the whole thing and go back to the original plan if it doesn't work."

> "Bottom line, [ISDN] is the best way to break up the bottleneck in shipping a file long distance."
>
> — *Paul Clark*

It has worked beautifully, however. Matzelle said he waited two weeks to get the lines and had few problems with line and Integrator installation. Now users seamlessly exchange files on a line that stays up continuously. "It is not as fast as a local connection, but if the LAN could transfer the file in, say, one to two seconds, over the ISDN it is five to six seconds," he said. "No one's complained."

With a router at each site, Matzelle said he saw no need to add another NetWare server as originally planned. "You can just imagine how much that saved, in hardware and in management headaches," he said.

The PRI piper

In the past few years, as telephone companies across the United States have increased availability, BRI ISDN lines have become the FedEx of the file transfer business.

Paul Clark is vice president of the prepress and digital imaging company SFC Graphics Inc. in Toledo, Ohio. Until recently, the four BRI lines connected to an ISDN card from 4-Sight L.C. of West Des Moines, Iowa, were sufficient for the company's needs. SFC was one of the first Toledo businesses to request an ISDN line, and Clark went through his share of preinstallation jitters.

"Our first line was also the first our technician had ever installed," he said. "I think I was pretty nervous and had my doubts about whether it would come together, especially since we were the first connection in our area. On the plus side, the telephone company was so new to it that they gave us the attention we needed."

ISDN's increased visibility since that initial installation has made it easier for Clark to convince his customers to get their own ISDN lines and purchase ISDN hardware and software in order to facilitate file transfers.

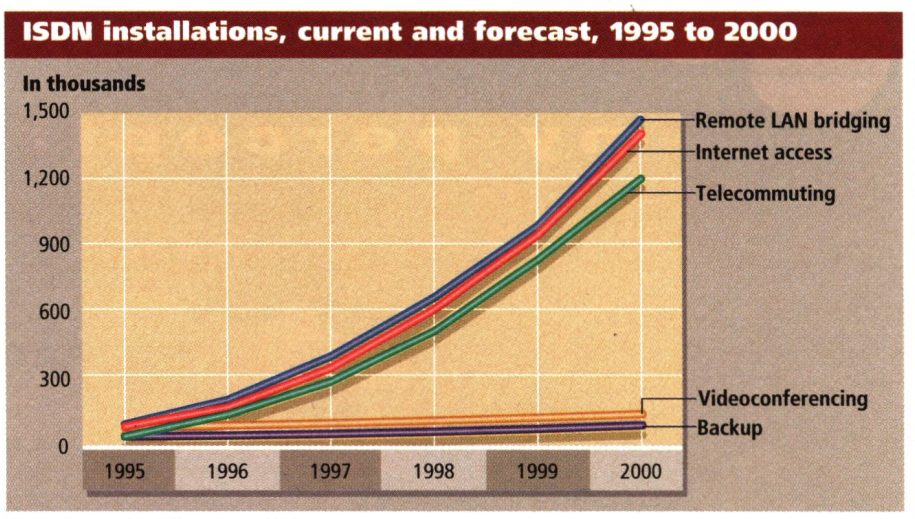
"It's gotten to be an easy sell because it is pretty easy for customers to understand that, bottom line, this is the best way to break up the bottleneck in shipping a file long distance," he said.

But Clark is not content to simply add new ISDN converts to his client roster. He also wants to convince clients to do file revisions over ISDN and to store and access all necessary graphics at SFC. "As a pre-press house we also want to be a content provider, so that entire agencies' or companies' employees have access to the files needed to get a job done," he said. Clark uses Tropix database from Alaras Corp. of Research Triangle Park, N.C., and he was eager to have customers start retrieving images from the Tropix database over ISDN.

To do that, Clark had to leave behind BRI ISDN in favor of BRI's higher-bandwidth cousin, Primary Rate Interface (PRI). A PRI line provides 23 communications lines, so Clark's clients will never get a busy signal when they dial in to retrieve Tropix images. 4-Sight and Alaras tweaked their products to ensure that users could use Tropix for the entire transaction, and Clark had no qualms when trading in his BRI lines for a PRI pipe.

The Tropix solution is currently being tested, but Clark said he has high hopes that he can lead customers into the process of doing more than just simple file transfers over ISDN. Even if clients agree to store their images in SFC's Tropix archive, though, it won't be a revenue-generating scheme at first, but rather a way to build relationships.

"The monthly rate with PRI is a big jump, but for the capacity I get, I'd pay more trying to do multiple BRI lines," Clark said. "I'm looking at it as an investment rather than as a cost-savings tool. It will be a lot harder to sell, but it is a long-term proposition." □



Source: International Data Corp., 1996

Put ISDN in your pipe

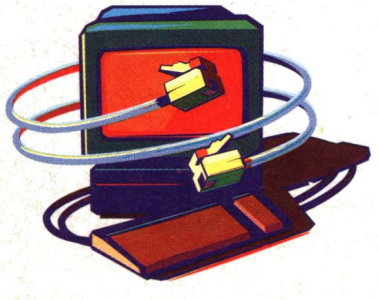
Managing one ISDN line between two connections may be a cinch, but what happens when you've got multiple transactions on many lines?

The Internet Engineering Task Force (IETF) developed the Multilink Protocol to enable managers to combine ISDN channels, giving users a larger pipe for data transfers. Products such as 3Com Corp.'s Impact IQ support the protocol, but for large environments with numerous ISDN lines, multilink Point-to-Point Protocol can't make the grade.

Thus, Shiva Corp. and Ascend Communications Inc., among others, jointly developed the Bandwidth Allocation Control Protocol (BACP) to help managers control multiple ISDN links in a dial-up connection. The IETF reviewed BACP; vendors held a test kitchen in May; and Shiva, Cisco Systems Inc. and others are busy incorporating the newer protocol into their products.

Most will be available by the end of this year.

— By April Streeter



Quality is Everything

HEALTH LETTER
Summer 1996
Volume 5, Issue 3
The Olive, The Grape, And Your Heart
At last, some refreshing good news about the foods you love. There are foods that are good for you (other than broccoli, Mr. Bush). Several years ago, science confirmed the wine drinker's long-held assumption that drinking wine in moderation is beneficial to one's health.
The first studies indicated that red wines contain chemicals – quercetin, and resveratrol – that the levels of harmful dilate blood time later, the
researchers University a previously for benefits.
Continued on page 3
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MacUser RATED 4½ SEPTEMBER 1995

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BPA INTERNATIONAL

The selling of the CPU

By revealing details about their next-generation PowerPC processors, Motorola Inc. and IBM Corp. gave Apple and its Mac OS licensees a big boost going into last week's Macworld Expo in Boston. Already boasting the industry's highest-performance desktop computer in Power Computing Corp.'s 225-MHz PowerTower Pro 225, the PowerPC consortium has given us a road map that lays out significant speed improvements for the foreseeable future. That means we can expect quicker response from existing applications as well as entirely new classes of CPU-intensive programs making their way to the Mac.

It's a good feeling for Mac buyers to know that they can depend on an upcoming series of processors that can squeeze more performance from silicon. Further, by offering 100 percent software compatibility, Mac owners can invest in products today without missing the performance improvements of the future. We are confident that the engineers at the PPC's Somerset design center in Austin, Texas, will achieve their goals. They've kept their promises in the past.

This does not mean that Intel Corp.'s Pentium chip will lose its grip on systems houses. To date, Team 80x86 has proven that it can stay close to the PowerPC's speed improvements, and on at least one level it is outperforming the PowerPC group: marketing.

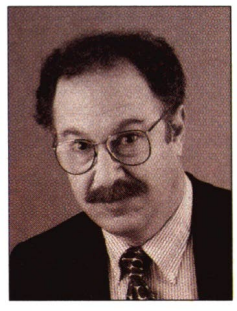
More than a few observers have said Intel's recently announced MMX technology for Pentium is a boon to software laden with graphics routines. The MMX revelation has kept the PowerPC designers on the defensive, even though they have the top processor outside the Unix market.

Graphics performance was supposed to be the one area where Pentium was not going to be able to touch PowerPC. When the MMX was first announced Apple and its allies scoffed. Now they're sitting up and paying attention. As of yet, however, there is no specific response to counter MMX, but these new CPUs ought to allay the fears of some who felt the consortium was losing its edge. □

THE SECOND DECADE HENRY NORR

Power Computing brings digital Darwinism to Mac

Power Computing Corp. has attracted lots of enthusiastic attention lately, even in the daily papers. But much of the coverage has missed the real character of the company's achievement.



Megahertz to burn

Not surprisingly, the headlines have focused on CPU speed. The market loves to talk about megahertz, and Power Computing is offering lots of them — more than Apple, Intel Corp. or anyone else (this side of Digital Equipment Corp.'s Alpha RISC chip, which just crossed the 500-MHz mark).

But the credit for cranking up the PowerPC clock really goes to IBM Corp. and Motorola Inc., and it was Apple that did the basic design work that enables the Power Computing products to accommodate speedy new CPUs as soon as their silicon is dry. If CEO Steve Kahng and company are further out on the cutting edge than Apple, it's mainly because a small company can announce and even ship systems with the latest processors before they're available in the quantities a company of Apple's size requires.

Where Power Computing has truly shone is in the variations it has made to the current Apple designs (which it will use until Common Hardware Reference Platform systems are ready). Some of these innovations — VGA and PS/2-keyboard connectors alongside the standard Mac ports, for example — are only small conveniences. But others, such as expanding caches, putting the processor on a replaceable card in all systems and dumping Apple's graphics chip as soon as a better alternative appears, add up to significantly increased performance and value.

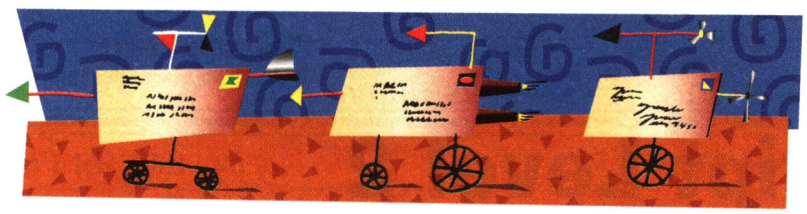
Digital Darwinism

Even though most of Power Computing's engineers come from Apple, they seem to have adopted what's best about the Wintel market: a nimble and aggressive approach to product enhancement. In that fiercely competitive world, each vendor is constantly hunting for some innovation, however small, that can give it an edge — and watching over its shoulder to see what its rivals have come up with. It's Darwinian. Innovations are like mutations, and successful ones confer an adaptive advantage; natural selection eliminates models and even vendors that don't keep up.

Until recently, Apple was largely insulated from direct competition by its monopoly on the Mac OS, so the company has adapted at a slower pace. Aside from periodic CPU speed bumps, Apple tends to stick with its designs for years at a time. (Except for the new Performa 6400, the company's tower models still come in an enclosure it has stuck with since 1993, despite some manifest drawbacks.)

Now that Mac OS licensing is a reality, Apple is no longer immune, and assuming it wants to stay in the hardware business, it must develop a new mentality. If not, it just might find unit volumes and revenues plummeting — not because customers have lost interest in the Mac platform, but because they have realized they can get better systems elsewhere. □

Henry Norr, editor emeritus of MacWEEK, welcomes feedback in the MacWEEK forums on CompuServe or at henry_norr@macweek.com.



LETTERS

No laughing matter

I heartily agree with your PowerBook assessment at Apple (07.29.96, Page 20). As a small-business owner in the finance industry, I am laughed at when others learn we are a Mac-based company. We last purchased a PowerBook in January 1995 and have been patiently waiting for a beefier product with a CD drive. In our industry, there are no (absolutely none) software programs written for the Mac and it causes us to become weary waiting for every product.

In this vein, I am surprised that the cloners have yet to make an entrance into the laptop market. In today's environment it really isn't rocket science to produce a laptop with truly excellent features. I do not know how much longer we can wait.

Greg Jackson, president
Gateway Leasing Corp.
Cincinnati

Power PowerBooks

I agree with the sentiment in your 07.29.96 editorial (Page 20). Just one question: Why haven't PowerBooks been cloned? I am struck by the robust Mac-compatible market. Power Computing Corp. is doing the best, already eclipsing Apple in the megahertz race. Given lead times and more knowledgeable prognostication than my own time permits, the PowerBook drought must stick out like a sore thumb. How long can it be before this market is attacked?

Jim Cook, principal software engineer
Peritus Software Services
Westboro, Mass.

Something simple

After reading Don Crabb's column for nearly five years and (usually) agreeing with him, I must ask one question: Why only the 5300 line of PowerBooks (07.29.96, Page 21)? Heck, I'd kill for a reasonably priced 540c with a 10.4-inch screen, 500-Mbyte drive, 16-Mbyte memory and all the other cool conductivity stuff that came with the 540c, such as Ethernet, optional PC Card cage and IR.

Most of the Wintel world is dumping their 486-series laptops because they don't run the applications and OS that are most in demand for the Intel chip set. However, a 66-MHz '040 will still run the latest and greatest Mac OS with a decent battery life.

There is no reason Apple should get into the Windows mind-set that faster is always better. I don't feel a burning need to move to a 240-MHz PowerPC machine. A simple laptop, like the PowerBook 160 I'm using now, would be fine. Apple needs to get back in the black and sell machines. It could do that by selling the Macs it couldn't make enough of when it was making them. Not a lot, but enough to make poor coding slobs like me happy.

Darrin Roberts
Computer Task Group
Melbourne, Fla.

Amiga mind-set

Having just read the letters column of 07.29.96 (Page 21), I was struck by Gordon Hawley's letter and how it seems to express the views of so many Macintosh owners. I am constantly confronted by the attitude that Mac owners should be religiously devoted to their Macs and not hear any criticism against them. It has been my experience that people who won't listen to criticism seldom improve. Mac owners seem to have adopted a siege mentality that, if it doesn't change, may relegate them to the same fate as Amiga owners.

Dave Griffin, software engineer
Fort Worth, Texas

Blame CompUSA

I would generally agree with the reader who points out that entering the retail business is not a good strategy for Apple (07.22.96, Page 21). However, I'd like to clarify his CompUSA example. To put an egg before his chicken (that Macs weren't selling well), I'd say from experience that it was entirely CompUSA's fault.

I used to be a Mac evangelist, working exclusively through CompUSA stores in my area. In every CompUSA, of the 15 to 20 salespeople, few were considered to be "Macintosh people," and they were also expected to sell Wintel machines. The only people pushing Macs in CompUSA were the ones already committed to them.

With all of its sales staff dependent on commissions, there is no incentive for CompUSA to offer "solution-based selling," an Apple mainstay. There is, however, a need to send every customer out of the store clutching a box. That type of environment doesn't get people computers they want, it gets people computers that are cheap.

Tobias Zimmerman, computer support
University of Michigan
Ann Arbor

How to contact MacWEEK

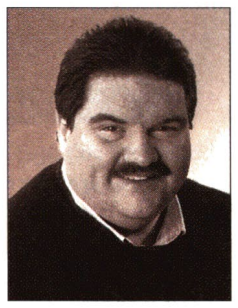
Send letters to MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; fax (415) 243-3651. We can be contacted online: CompuServe, 76077,1351; Internet, letters@macweek.com. Include your name, address and phone number. We reserve the right to edit for clarity and length.

THE MAC MANAGER DON CRABB

The good, the bad and the very widely known

Information about computer products is a funny thing. It's funnier how it gets disseminated.

On July 31 I wrote a Steamed Crabb column for MacWEEK Online where I named my first Steamed Crabb Mac OS Superstar Small Guys Awards (http://www.macweek.com/mw_1030/opinion_crabb.html). My "awards" were made to Mac companies that have "kept the faith with great Mac products over the years."



The responses I have gotten from these awards have been, well, interesting. Since I asked for more nominees for future recognition, I've gotten hundreds of replies, along with detailed reasons why the companies are so good. What surprised me the most were the responses I got that were *not* recommendations, and the level of discourse at which they were written.

Information interchange

Consider: "Now Software's Now Utilities has become an error plaqued [sic] mess. I loved the Now Utilities package up until Version 4.0. With each new update, tons of bugs, conflicts and related problems arose. The Mac system is problematic enough without adding all of these unstable extensions."

"Connectix Corp.? Are you kidding me? Everyone knows that RAM Doubler instantly crashes your Mac. And Speed Doubler? Even worse."

"It's widely known that Farallon's Ethernet hubs are the worst in the business."

"SoftWindows 95 is a joke. Don't you read the newsgroups?"

Add many more like these (all from different writers) and you get the picture. Note that negative comments represent only about 5 percent of those received so far.

This experience got me thinking about how we discuss products, the level of discourse on products we don't like and the mechanisms for having our opinions heard.

Widely known vs. wild hairs

Many of the critical comments I received about the companies I nominated included language indicating a shadowy information base far beyond the expertise of the writer. "Everyone knows." "Product X is known for its many flaws." "It's widely known." "Don't you read the newsgroups?"

Who is "everyone"? What's the definition of "widely known"? And why do some think newsgroups are a good source of reliable information?

My purpose is not to squelch free speech. Indeed, I relish it as a foundation of our society. But our level of discourse, our politeness and our assertion of so-called facts where none exist has really gotten out of hand. And all because of the Internet.

The Internet, via newsgroups, list servers, Web sites and the rest, is the fastest growing uncensored (and unstructured) information network of all time. But the ability to disseminate any information to a mass audience quickly on the Internet has far outstripped our methods to provide *quality* information.

We need to view much of what's out there with more than a grain of salt. The next time you flame a product or a company over the Internet, think of the level of your discourse and the information's accuracy. Remember, it's widely known already that this is the truth. □

Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at http://cs-www.uchicago.edu/~decc/.

Medusa in our time.

Comments? Ideas? Contact Eli at elitoons@aol.com

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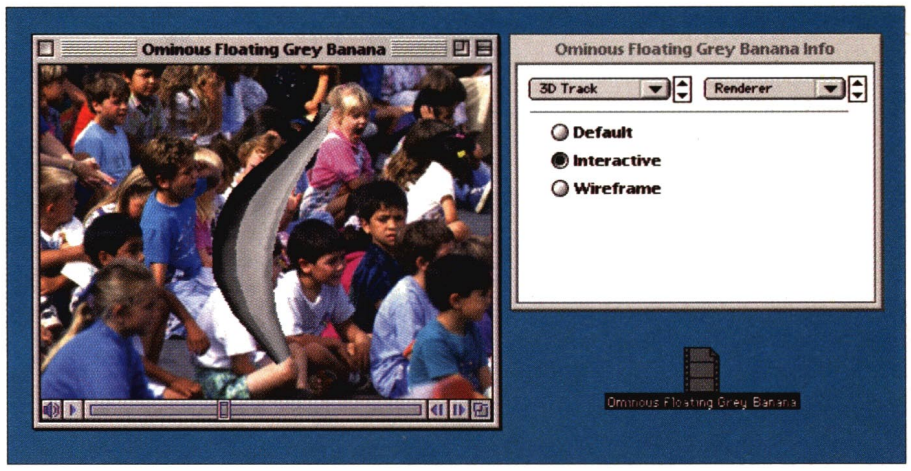
QUICKTIME IN 3-D

Specular Infini-D and Strata StudioPro soon will add support for QuickTime 2.5's new 3-D features.

QuickTime 2.5 boasts impressive enhancements

By Kennedy Grey



Apple's QuickTime 2.5 adds new integration with QuickDraw 3D, allowing movie makers to import animations as tracks within movie projects.

Solid Apple upgrade has multiprocessing support and improved 3-D, MIDI features.

The present and future of Mac digital video got a big shot in the arm this month with the release of Apple's groundbreaking QuickTime 2.5. Many of its features won't be fully realized until vendors adapt their hardware and software, but available enhancements such as higher-quality video playback rates, improved 3-D support, closed-captioning, new MIDI features, multiprocessor support and new interchangeable file formats should be reasons enough for Mac video makers to hustle to the nearest Web site and download it. QuickTime 2.5 is available free at http://www.quicktime.apple.com.

Potent playback

Data handlers rewritten in native PowerPC code have produced the biggest immediate advantage of QuickTime 2.5: significant gains in output performance. In some cases — especially for Truevision's Targa board set (which is used by Avid Technology Inc. and Scitex Digital Video Inc. in their MCX and ImMIX MicroSphere products, respectively), our tests revealed a 50 percent or better jump in playback data rates.

While QuickTime 2.1 achieved playback rates of about 4 Mbps, Version 2.5 shows playback rates of 6.4 Mbps when measured on a Power Mac 8500/120 with 32 Mbytes of RAM. The resulting picture quality was also significantly better, with fewer artifacts and smoother playback. Running the Targa 2000 board on DayStar Digital Inc.'s Genesis with four PowerPC processors achieved reliable rates of about 15 Mbps. Other boards, such as the Media 100qx from Data Translation Inc. and VideoVision Studio from Radius Inc., also show increased data throughput rates, though they're not as significantly improved as with the Targa cards.

Multiprocessor, or MP, support in this new version yields significantly improved render times — making it feel almost like a real-time render. Nonhardware-assisted transitions took about 10 seconds to render a three-second fade. Anyone who remembers how QuickTime, circa 1992, rendered fades in Adobe Premiere 1.0 will feel shot out of a cannon with this version running on an MP machine. Multiprocessing also allowed simultaneous playback of a few different streams of video, but it was still not pristine running two screens at once; it was about twice the speed of a single-processor machine running the older version of QuickTime.

Promising potential

Perhaps Apple's biggest feat in QuickTime 2.5 was getting third-party Mac video hardware vendors to agree to support one of two universal compressor-decompressors (codecs): Motion-JPEG-A and M-JPEG-B, which cover the two major logic chips used on video boards. These universal codecs will bring about what many Mac video studios have been whining for since the dawn of QuickTime: a way to play video from one video board to another. Hardware vendors will soon be providing free "codec codecs" that convert their proprietary M-JPEG formats to the universal codec formats. Once available, footage captured on a Media 100, for example, will play on a Targa board or on a Mac without any video capability at all. While these universal codecs will provide slower playback, the interchangeability should still be a boon to users.

This might be construed as a strategic move by Apple against Microsoft Corp. and its new ActiveMovie format. Perhaps Apple has taken a lesson from the music industry, which saw hardware vendors come together to agree on the MIDI spec in the mid-'80s. MIDI rapidly solidified into the lone musical equipment standard and caused a huge surge in business for the entire market.

Full-fledged 3-D

Other new features in QuickTime 2.5 include closed-captioning and support for a 3-D track that embeds 3-D files for automatic tweening of animation run lengths. This last feature is useful for 3-D modelers who import their animations as tracks within movie projects. Previously, animators set the frame rate within the animation package, rendered and exported a file, making it difficult to resize or crop. If you needed to time-extend the animation, it played slower and less smoothly because it

See QuickTime, next page

SCORE CARD

QuickTime 2.5 ◆◆◆◆◆

Apple **List price: Free**

Hits: Vastly improved throughput; universal M-JPEG codec; enhanced MIDI implementation; Web support.

Misses: File sizes still limited to 2 Gbytes; MPEG codec not in this release.

Key ◆◆◆◆◆ *Excellent* ◆◆◆◆ *Very good* ◆◆◆ *Good* ◆◆ *Fair* ◆ *Unsatisfactory*

Akimbo's Globetrotter nets HTML editing points

By Arnie Keller

Writing HTML with a text editor may not be rocket science, but it is complex enough to distract you from getting your message across. Adobe Systems Inc.'s PageMill and Claris Corp.'s Home Page are in a tough race for writers who want to concentrate on writing rather than fiddle with HTML tags.

Now Akimbo Systems Inc. has announced a new competitor: Globetrotter, due in the third quarter. The product, which will cost $99 for the first 60 days of its release and $249 thereafter, doesn't just join the race; it threatens to take the lead.

We tested Version 1.0b4 of Globetrotter. It works like a word processor, which is not a surprise, because Akimbo also produces the word processor FullWrite. The company's experience has served it well: Globetrotter consistently produced text styled the way we wanted.

Looks good from here

Globetrotter allows you to preview the page as it will appear in a browser before publishing it. The program uses its own proprietary format, however, so it cannot currently preview or convert existing HTML files.

Like its competitors, Globetrotter translates images into JPEGs when you drag them into your document.

(Because of licensing issues, GIF conversion was not available in the beta version; Akimbo said that it will be in the release version.)

Globetrotter really shines when creating image maps. You simply draw hot spots on the image and then indicate those areas' target links.

It also creates tables easily, although to align text you must access a second, hard-to-locate dialog box.

See Globetrotter, next page

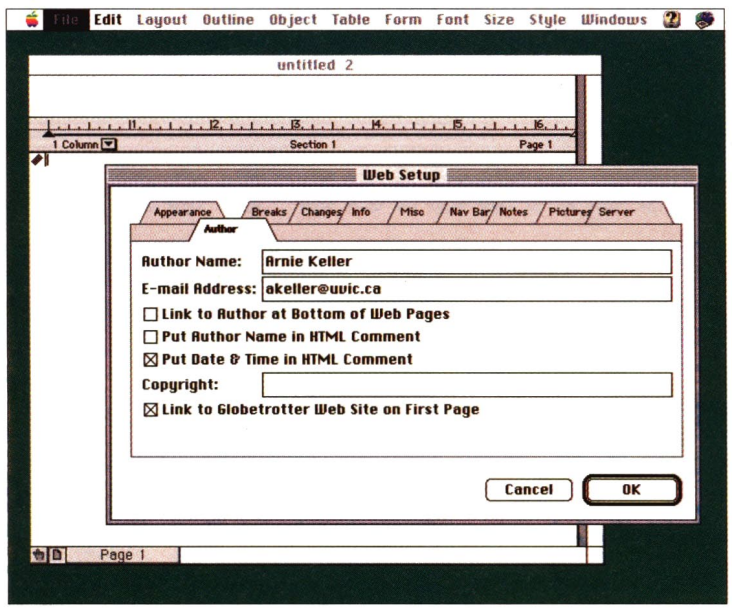
Globetrotter

From previous page

Creating interactivity

Globetrotter manages links intelligently: It was smart enough to recognize "www.zdnet.com" as a URL when we typed it, automatically creating a link. The application can generate relative paths, so when we transferred folders to our Web site, everything ended up where we expected it to be on the server.

Forms are easy: Simply pick elements from a menu as you go. What really impressed us, though, was that Globetrotter also created the needed server-side CGI (Common Gateway Interface) application. We did have to play with MacPerl and MacHTTP, however, before we got things working; Akimbo is preparing documentation and application fixes to make CGI publishing easier.



Akimbo Systems' Globetrotter uses a tabbed window to set document preferences. It grabs information about the page's creator from Internet Config and makes it easy to include other information in the pages it publishes.

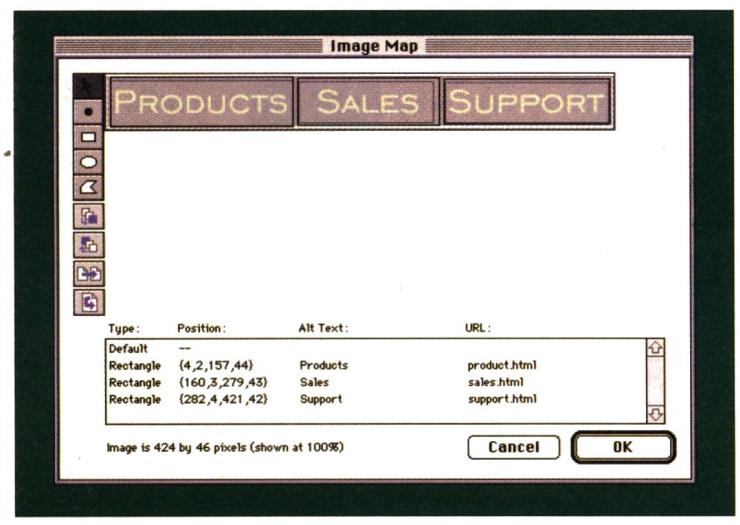
Getting around

Globetrotter includes a full-featured outliner to help writers create coherent sites. We tested this tool by creating a list and then inserting a section break after each item. As directed, Globetrotter published each new section as a separate HTML file, complete with a navigation bar and Next and Previous buttons.

As powerful as that is, Globetrotter's word processorlike interface forces you to do some protracted scrolling. We wish pages in the same document could be tiled, as can windows containing different documents.

Besides offering convenient text tools and CGIs, Globetrotter excels in other ways. You can embed Java applets and pass them parameters, although the program doesn't have an applet viewer to preview them.

Globetrotter also estimates how long it will take to download pages, provides a spelling checker and thesaurus, and allows style sheets. One interface omission: A tool bar would speed things up.



Creating image maps in Globetrotter is simple. It displays your image and a tool palette with a range of shapes, a list of hot spot coordinates and target URLs.

Conclusions

Even at a beta stage, Globetrotter is an impressive and important product with a lot of intelligent, well-designed features. Because its proprietary file format incorporates the current HTML specification well, we found no reason to go back and tweak the published HTML as we did with other Web-page authoring tools. It's still early in the WYSIWYG derby, but Globetrotter is well-positioned to come out in front. Adobe and Claris are going to have to run faster.

Akimbo Systems Inc. of Somerville, Mass., can be reached at (617) 776-5500; fax (617) 776-5512; globetrotter@akimbo.com; http://www.akimbo.com. □

IN BRIEF

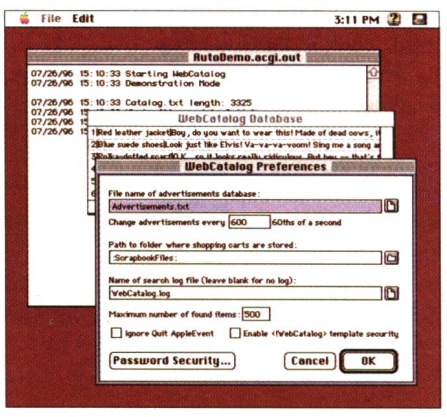
WebCatalog CGI showcases wares, but with difficulty

WebCatalog 1.6 ♦♦

If you plan to make one of those vaunted fortunes on the Web by selling merchandise, you'll need a program that shows off what you've got. Pacific Coast Software's $695 WebCatalog does that, but not easily. An asynchronous CGI (Common Gateway Interface) application, WebCatalog presents your products via a searchable, Web-based catalog. It then generates HTML pages that display formatted search results.

Visitors can explore your catalog using a rich combination of search criteria, but you'd better be up to writing serious form-based HTML, or at least be prepared to work with

See WebCatalog, Page 30



You configure Pacific Coast Software's WebCatalog through a sparse Preferences window and import data as plain text.

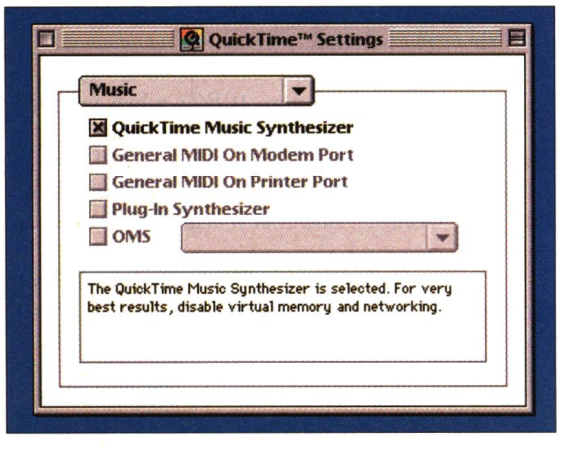
QuickTime

From previous page

was simply playing the existing number of frames slower. With QuickTime 2.5's 3-D enhancements, you don't need to prerender tracks, and there is no intrinsic frame rate set when preparing the file for export in the 3-D animation package. Once inside the video sequencer, animators can now automatically time-extend an animation, and it actually provides tween frames to keep the animation playing smoother. This feature requires QuickDraw 3D 1.0.6 or later.

Music maestro

QuickTime's MIDI implementation has been significantly enhanced. You'll soon be able to replace or supplement the original software synth voices that came with QuickTime 2.0 (and on) with products being developed by Yamaha Corp. and other third-party vendors. The first crop of these high-quality 16-bit software synth voices should arrive by October and will be playable via MIDI control tracks embedded in movies. Since MIDI files are so compact, this will allow rich compositions to play right from the Mac with no performance loss to the video playback stream.


QuickTime™ Settings
Music
QuickTime Music Synthesizer
General MIDI On Modem Port
General MIDI On Printer Port
Plug-In Synthesizer
OMS
The QuickTime Music Synthesizer is selected. For very best results, disable virtual memory and networking.

For the first time, QuickTime will have control panels for users to adjust settings.

Webmasters will find Apple pushing this version of QuickTime at them from all directions. Netscape Communications Corp. has agreed to provide Navigator browser compatibility with QuickTime, and Web pages can now be written to include QuickTime files. QuickTime-savvy Web browsers will start playing a movie when the minimum amount of data is received, and an asynchronous link will keep downloading while simultaneously playing the movie.

It syncs

Audio-video synchronization has also been improved with a new clock component scheme. Previously, video and audio synchronized to different clocks (one on the Mac, one on the video board) resulted in drift between the two signals. On cards where sync has been a problem in the past, clips of 30 seconds or more did not appear to lose audio-video sync, as was the case with the previous version of QuickTime.

One feature that was expected but is not found in the initial QuickTime release is a codec that provides support for the MPEG format. According to Apple, the MPEG codec will be available within several weeks of the initial QuickTime release. This will be a big windfall for video users hoping to take advantage of the new DVD (Digital Video Disc) format. Since the codec is software-based, it will not digitize to MPEG in real time. The MPEG codec will supply editing functions such as cut, copy and paste within MPEG files, which are not supported on most hardware MPEG compression systems available for the Mac.

Conclusions

This latest version of QuickTime is a big step forward. Making QuickTime Web-worthy, open to MIDI, faster and more flexible will continue to make the Mac a very attractive platform for thousands of aspiring moving-picture creators, as well as strengthen its professional capabilities. QuickTime 2.5 is a solid foundation on which to build the monster media machine the Mac has always aspired to be.

Apple of Cupertino, Calif., can be reached at (408) 996-1010 or (800) 538-9696; fax-back (800) 462-4396; http://www.apple.com. □

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COMPARISON

Trio of digital business cameras disappoint

By Bruce Fraser

Experience reveals three very different animals — and none is entirely satisfactory.

From the specs, Casio Inc.'s QV-30, Fuji Photo Film USA Inc.'s Fujix DS-220 and Ricoh Corp.'s RDC-1 seem similar: All three handheld digital cameras, aimed squarely at business users, not professional photographers, capture images at screen resolution and offer an LCD monitor as either standard or optional equipment. But hands-on experience reveals three very different animals — and none is entirely satisfactory.

Casio QV-30

We had high hopes for the $999 QV-30, but it turned out to be a larger, more ungainly version of the $699 QV-10A Plus, with all the flaws of its predecessor and a good deal less charm.

The only functional difference between the two is that the QV-30 offers a dual-position wide-angle-to-telephoto lens instead of the QV-10A's fixed focal-length lens. Both use the included LCD monitor as a viewfinder and playback screen, but the QV-30's larger LCD panel is also dimmer, so it's almost unreadable in direct sunlight. This makes shooting outdoors on sunny days very difficult, since the camera has no optical viewfinder. It has the same 96-image storage as the QV-10A and eats batteries at the same alarming rate.

The QV-30's software lets you view images as a contact sheet either in the camera or on disk. You can save files as PICTs or TIFFs, at 320-by-240- or 640-by-480-pixel resolution. The latter is obtained by interpolating the lower resolution upward; you can get the same or better results by upsampling in Adobe Photoshop. You can also upload images to the camera for playback on a TV or VCR, but the QV-10A also has these features. All in all, the QV-30 is a step in the wrong direction.

Ricoh RDC-1

Fuji Fujix DS-220

Fuji's $1,200 DS-220 captures images on industry-standard ATA (AT attachment) Type II PC Cards. The camera writes JPEG files that can be opened by any JPEG-capable reader, so no special software is required, but you need a PC Card reader because the camera can't connect directly to a Mac.

Fuji Fujix DS-220

The two-position lens is equivalent to 36mm and 72mm focal lengths in 35mm format; a macro setting lets you focus as close as 45cm. The camera offers autofocus, autoexposure and autoflash. It uses rechargeable camcorder batteries, and a battery, battery charger and AC adapter are included in the basic package. An optional $299 LCD monitor can act as both a viewfinder and a playback device, but we used the optical viewfinder more — the camera becomes awkward with the LCD attached.

The 640-by-480-pixel images have decent color but are very soft. For close subjects, the sharpness is acceptable, but for distant subjects it leaves much to be desired. A $750 macro kit — three lenses and a macro flash adapter — adds outstanding capabilities: You can focus down to two inches with very pleasing results, something no other camera in this price range can manage. We like the DS-220's convenience, but for normal photography the lack of image sharpness is a real problem.

Casio QV-30

Ricoh RDC-1

Ricoh's $1,699 RDC-1 is seductive at first, but once you start using it you'll find it overly complex. The camera is an autofocus zoom small enough to fit in a shirt pocket. The zoom lens, coupled to an optical viewfinder, covers a range equivalent to 50mm-150mm in 35mm format. Besides still images, it can capture five-second clips of full-motion video with audio, or it can record audio alone.

The PC Card used for storage isn't ATA-compatible, so most PC Card readers can't read it. Instead, you must connect the camera to the host Mac via a serial cable, which is not as easy as it sounds. First you plug the serial cable into the $59 RDT-1 communications adapter, then plug the RDT-1 into the camera, after first removing a small door that will almost certainly get lost in a matter of weeks. Then you must manipulate the camera controls to select the port and baud rate, which is almost impossible unless the camera is also connected to either the optional $539 DM-1 LCD monitor or, via the RDP-1 video playback adapter (included with the basic camera), to a TV set because the menu choices aren't displayed anywhere on the camera.

The system for power-management is equally complex. The camera, LCD monitor and video playback adapter all take proprietary rechargeable batteries, but you have to connect either the monitor or video adapter to the camera, since the camera has no power port. Did we mention you have to disconnect the monitor or playback adapter to eject the PC Card?

The LCD monitor can act as a viewfinder or playback device, but we used the optical viewfinder more because it's easier to see in daylight and the camera is bulkier with the LCD attached. We noticed considerable backlash in the motor driving the zoom lens; we often had to back it out all the way and then zoom in to get it to hold an intermediate position. The 768-by-576-pixel images are the best of the lot, but color tends to be plausible rather than accurate, and the flash often burns out the highlights.

You can open images on disk or in the camera as a digital contact sheet and save them as PICT, JPEG, TIFF or BMP files. There are two noise-reduction filters and a rotate function but no other editing features. Downloading time is almost two minutes per image.

The RDC-1 is small, easy to shoot with and can carry a large amount of online storage, but it has its share of warts. And once you add up all the components (including a $1,699 24-Mbyte PC Card), it's quite expensive.

Casio Inc. of Dover, N.J., can be reached at (201) 361-5400 or (800) 962-2746; fax (201) 361-3819; http://www.casio-usa.com.

Fuji Photo Film USA Inc. of Elmsford, N.Y., is at (800) 378-3854; fax (914) 789-7900.

Ricoh Corp. of Sparks, Nev., can be reached at (702) 352-1615 or (800) 225-1899; fax (702) 352-1615 or (800) 544-8246; http://www.ricohcpg.com. □

SCORE CARD

Casio QV-30 ◆

Casio Inc. **Price: $999**

Hits: Relatively inexpensive; easy to use; can be used as a presentation device with video playback.

Misses: Poor image quality; viewfinder unreadable in sunlight; eats batteries; offers little that its less expensive predecessor does not.

Fuji Fujix DS-220 ◆◆◆

Fuji Photo Film USA Inc. **Price: $1,200***

Hits: Uses industry-standard ATA Type 2 PC Card storage; saves standard JPEG files; excellent macro capabilities.

Misses: Images are overly soft; macro adapter is expensive.

Ricoh RDC-1 ◆◆◆

Ricoh Corp. **Price: $1,699****

Hits: Decent still-image quality; also captures five-second video/audio clips.

Misses: Complex product; rough zoom mechanism; downloading images to Mac is slow and difficult; PC Card isn't ATA-compatible.

**Optional LCD monitor, $299; macro kit, $750.*

***Optional RDT-1 communications adapter, $59; DM-1 LCD monitor, $539; 24-Mbyte PC Card, $1,699; bundle with batteries, battery charger, LCD monitor, video adapter, communications adapter and an 8-Mbyte PC Card, $3,099.*

WebCatalog

From Page 28

a Web-page editor that supports forms. WebCatalog's included range of templates do help, but the process is far from trivial.

Preparing your catalog is complicated as well. While you can use data from any program that exports tab-delimited files, you must have precisely 27 fields — no more, no less. Further, WebCatalog expects text and integer fields in very specific places. If things aren't exactly as WebCatalog wants, it won't read your data and the CGI program won't launch. The product ships with templates for popular database programs, which somewhat ease importing data, but we wish it did more to accommodate users.

Once data is in, however, the results are fine. We tried searching our site over both fast and slow links and with new and old CPUs. WebCatalog made good on its claims for quick searches and attractive pages. It also lets you feature ads on a rotating basis, although we didn't test this feature.

The price is high, although it is lower than the cost of writing a CGI application in-house, especially one as solid and feature-rich as WebCatalog. But your costs won't end there. Getting the data into WebCatalog and editing the HTML forms takes time and skill. The manual is unfortunately sparse in places where step-by-step instructions are needed, and wordy elsewhere. The documentation needs a tutorial and an index. However, technical support, which is available by phone and e-mail, was prompt and knowledgeable.

Be prepared to spend time massaging your data and editing complex HTML forms before WebCatalog will let visitors see and search what you're selling.

Pacific Coast Software of San Diego can be reached at (619) 675-1106; fax (619) 675-0372; info@pacific-coast.com; http://www.pacific-coast.com. — *By Arnie Keller*

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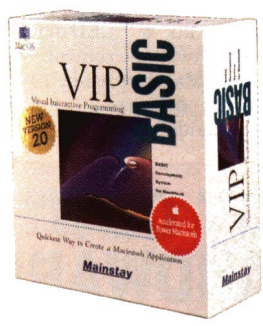

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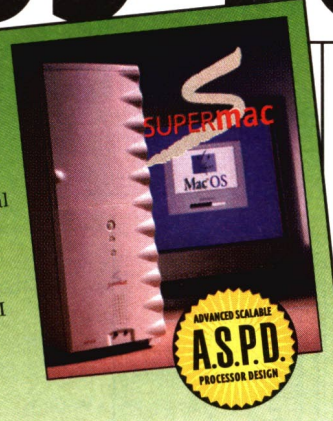

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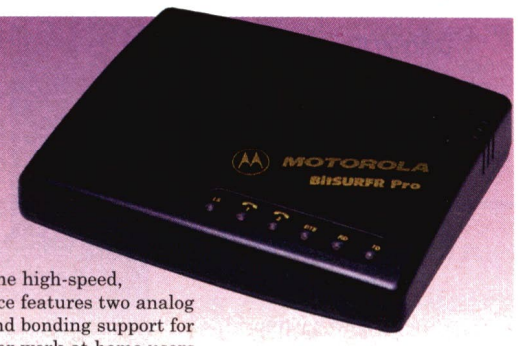

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SPECIAL EFFECTS

Pros save time and money with custom f/x toolbox

By Eric Taub

Since the introduction of After Effects 2.0, tasks that could once be performed only with expensive, dedicated equipment are now accomplished easily on the Macintosh.

Nowhere is that more evident than the realm of special-effects creation for motion pictures, industrial videos and CD-ROM games. In just the past two years a dramatic increase in the processing power of high-end Macs, coupled with potent software tools, has produced special effects that industry professionals agree equal and sometimes surpass the work created in video post-production houses with equipment costing 20 times as much.

"Post-production houses would love to charge clients $800 per hour for video work, but people are working on their Macs in small studios, controlling their own output."

— Trish Meyer, CyberMotion

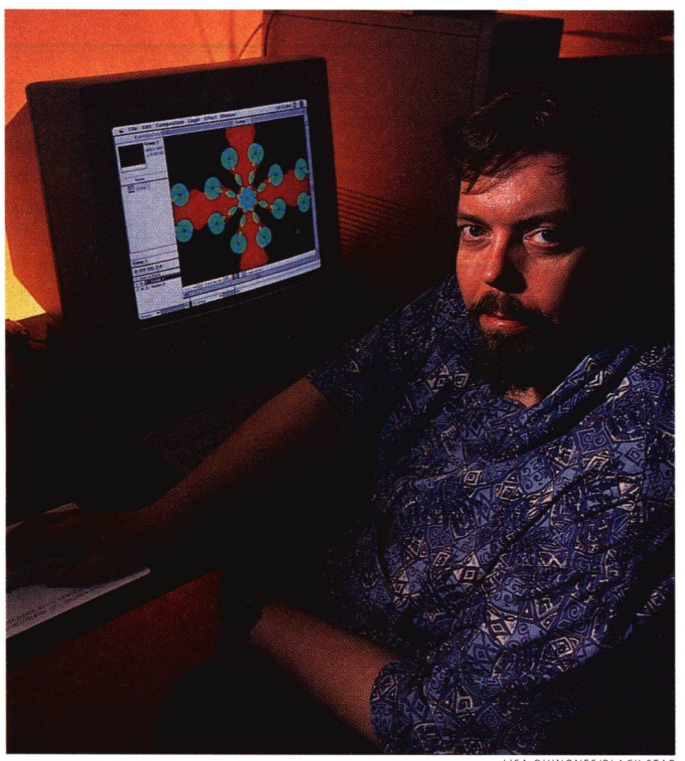
Standard tools

Creating special visual effects requires a suite of packages, including 3-D animation, special-effects, modeling and compositing software. From the host of available software, a quartet has emerged as the "must-have" packages: After Effects from Adobe Systems Inc. of Mountain View, Calif.; ElectricImage Animation System from Electric Image Inc. of Pasadena, Calif.; KPT Final Effects from MetaTools Inc. of Carpinteria, Calif., for effects such as page peel, spherize and particle generation; and form*Z from Autodessys Inc. In addition, Adobe Photoshop is regularly used to create still elements that are composited into the final project.

"It comes down to 'What programs can people make money from?' " said Trish Meyer, owner of CyberMotion in Calabasas, Calif., a creator of video special effects. "Go to any studio and ask what programs you need, and these are what people will mention."

Richard Lainhart, owner of O-Town Media Inc. of New York and a creator of the Horde Festival CD-ROM for Philips Media, said, "Before there was After Effects I used Adobe Photoshop to create special effects.

"It was very tedious because you had to alter each frame individually," Lainhart said. "I'd work with PICT files and apply a twirl filter in Photoshop to each frame. I'd create a macro with [CE Software Inc.'s] QuicKeys that would save the filter effect, open the next file, open the desktop calculator and add a standard value. Then, it would go back and paste that value into the twirl field, save the effect and go on to the next file.



LISA QUINONES/BLACK STAR

Richard Lainhart, owner of O-Town Media Inc., used Adobe Photoshop to create special effects before After Effects came out. Work that used to require several minutes per frame is now completed in seconds.

"If all went well, it would take several minutes to do each frame. But usually the macro would break down and the machine would start bouncing between Photoshop and the Finder," he said. "With After Effects, the whole process takes a few seconds per frame."

Lainhart said he is impressed with After Effects' "sophisticated motion-tracking features," which includes being able to change the velocity of a moving object to better simulate real-world actions and its corner-pin-tracking feature, allowing for the replacement of sections of moving objects with others while maintaining true perspective changes. Lainhart also praised After Effects' motion-math feature, with its ability to apply variables found in one layer to another layer. The program can chart amplitude changes in an audio track and apply those changes to a visual layer, forcing an object to twirl in sync with a musical beat, for instance.

Meyer said the changes in special-effects production are akin to the revolution in the pre-press world. In the 1980s, she said, agencies reluctantly switched to Macs but didn't like losing the 20 percent overhead they charged clients for outside typesetting. "Now, post-production houses would love to charge clients $800 per hour for their video work, but people are working on their Macs in their own small studios, controlling their own output."

Render it

Brian Maffitt is the owner of MAFF/x Inc. of Rego Park, N.Y., a creator of animation, special effects and television commercials. "If you're a pro, then there are precious few other programs to use," Maffitt said. "You can use a Silicon Graphics machine, but there's no reason to do so. Adobe After Effects for the Mac is as seminal a program as Adobe Photoshop, but for animation. And ElectricImage is about the fastest renderer I can imagine on any platform. If I can't get something

See Solutions, next page

DAVE EMBER

MACINTOUCH

RIC FORD

More on Open Transport; tips on disk problems

This week I'll follow up on earlier columns on which readers had questions and answers on several topics. One answer covered the question of how to trick MacTCP into running on PCI-based Macs (see 07.15.96, Page 31) in a search for better networking reliability pending the release of Open Transport 1.1.1.

It turns out that the secret to overriding Apple's recommendations and the automatic mechanisms in System 7.5.3 is to install *two* copies of MacTCP. You make System 7.5.3 happy by letting it hide away one copy of MacTCP and install a second copy under a different name (such as MacTCP 2.0.6), which will then remain visible and usable in the Control Panels folder.

As in earlier variations of the procedure, disable (move) two files from the Extensions folder — Open Tpt Internet Library and OpenTptInternetLib — and disable the TCP/IP control panel.

(If MacTCP does not initially function, you may need to copy over the MacTCP Prep file from an older system's Preferences folder; see 09.04.95, Page 44.)

Driving tips

Apple finally includes a SCSI-2 Fast bus

See MacInTouch, next page

SOLUTIONS

From previous page

to render in this program under 40 seconds per frame, I feel like I've failed. But on an SGI machine, three to four minutes per frame is a common rendering time for me."

According to Marc Thorner, owner of Thornergraphics of New York, "The Macintosh platform can now give you special-effects quality that's equivalent to that achieved from a Quantel Harry [post-production special effects hardware] that costs hundreds of thousands of dollars."

Thorner creates special effects and in-house videos for Turner Sports Broadcasting, American Express and other clients. "Not only is ElectricImage the fastest renderer on the market, but with After Effects' multiple-layering features I can tweak an individual element without having to rebuild an entire sequence," he said.

Is it live?

Programs such as these are being used to create high-quality special effects, and the results often are indistinguishable from reality. When the creators of the motion picture "Outbreak" needed a sequence showing a camera rising over a desert hill to reveal a secret laboratory, they realized that building such a set would be too expensive. They turned to Fumi Mashimo, an animator at Illusion Arts Inc. of Van Nuys, Calif.

"The laboratory was designed in Adobe Photoshop," Mashimo said. Then, I built a 3-D version of the hill in form*Z and animated it in ElectricImage. Finally, I composited the hill and the laboratory in Adobe After Effects. The entire process took three to four weeks, including approval time and redos. The average audience-goer cannot tell that this 'mountain' was made on a computer."

Maffitt of MAFF/x needed to create a talking, animated calculator as the lead character for a Skippy peanut butter industrial video for CPC International Inc. Using a setup that included a Mac 8100/100 with three monitors and a Mac 8500/120 with 240 Mbytes of RAM as a rendering station, he perfected the shape and color of the character as a 3-D model in form*Z. He created the eyes and mouth using Adobe After Effects' animated bezier masks, and he mapped the calculator's eyes and mouth in ElectricImage.

The background for the character was created in Photoshop, and once he decided how the character should move, he created the choreography in ElectricImage. An alpha mask was automatically generated, which was used to composite the image in After Effects. At the same time, the sound file was brought into After Effects. Looking at the sound wave, Maffitt created markers for sound key points so the mouth movements would be in sync with the dialogue. He used After Effects to create a library of mouth movements, which were cut and pasted into the appropriate points of the character's movements.

"Ten years ago I couldn't have done this work, because I wouldn't have had the patience to create everything on paper," Maffitt said. "There's nothing worse than working for four days on a project and then spilling some ink in one corner. I've always known how I want things to look; now I have the freedom to explore and play, and it has become fun."

Client vs. creator

Negatives are few with this suite of programs. Some complain about After Effects' lack of true 3-D capabilities, and its inability to automatically move layers at different speeds and alter shadows to reflect different depths. ElectricImage users fret about its cost, its inability to correctly move a character's muscles and skin, and, as always, its speed.

The ability of the computer designer to control every step of the production process is changing the nature of the relationship between client and creator. "When you worked in a post-production studio spending $800 per hour, the client sat with you all day," Meyer said. "But now, in a Mac environment, it's like working in print. The client tells you what they want, and then they go away, because it's cheap enough. Am I an animator or an art director? I'm both. It's back to hands-on again, and the client has to get used to the fact that you're doing both." □

Creating a wall of illusion

J.J. Gifford, a graphic designer for The Voyager Co. of New York, chose his tools carefully when he was charged with creating an opening and supplemental chapter introductions for an annotated laser disc version of Terry Gilliam's film "Brazil." He decided on Adobe Systems Inc.'s After Effects, Electric Image Inc.'s ElectricImage Animation System and Autodessys Inc.'s form*Z, despite what he said are "incredibly" long learning curves.

Gifford decided to adapt a shot of a wall of filing cabinets receding into infinity. He wanted the camera to travel down that wall, then turn to face one cabinet drawer that would open and reveal a television screen playing Voyager's Criterion Collection logo.

Using the illustration on the "Brazil" video box as a guide, Gifford used form*Z on a Power Mac 8100/100 with 112 Mbytes of RAM to create one closed filing cabinet and one open cabinet housing the screen. He brought the cabinet illustration into ElectricImage, duplicated it to create 600 cabinets, and placed the "camera" to show them receding into the distance. He set the fog level to black, letting the cabinets disappear in the darkness, which gave the illusion of an infinite number.

Using After Effects, Gifford created two seconds of blue video noise that he texture-mapped to the TV screen. The Criterion logo, created in Adobe Illustrator, was imported into After Effects and altered to give the illusion that it was running as motion-picture film. The logo was then rendered out of After Effects, to be placed on the TV screen in ElectricImage.

He created the 10-second animation in ElectricImage, defining keyframes as the camera moved down the row of cabinets, turned toward the one that opened and panned inside to see the Criterion logo running on the screen.

In 25 hours, ElectricImage rendered the sequence as a 30-frame-per-second QuickTime movie. When Gifford saw it, he realized that some of the cabinet bolts were too dark. He turned off the visibility of all other objects in ElectricImage and re-rendered the bolts, compositing the newly rendered bolts with the rest of the sequence in After Effects.

The effect took two weeks to create, from concept to layback onto D2 videotape. — By Eric Taub

J.J. GIFFORD

MACINTOUCH

From previous page

internally with the Power Mac 7500 and above, though not in lesser models, and the newer bus almost doubles transfer rates with the SCSI-2 hard drives that are now common. Apple-labeled drives, however, have a quirk that can be a bit confusing in this new environment.

Most vendors simply qualify and package standard hard drives from such manufacturers as Seagate Technology Inc. and IBM Corp. Apple takes the unusual extra step of customizing the firmware of the hard drive controller for Apple-labeled drives. Among other things, this lets Apple key its disk-formatting software to an identifier in the firmware.

The quirk involves the other information returned by the controller: According to readers, Apple controllers erroneously report SCSI-2 drives as SCSI-1 devices when queried by utility programs such as FWB Inc.'s Hard Disk ToolKit 2.0. This apparently has little, if any, effect on actual performance, but it is confusing to customers.

Sleeping badly

A more serious disk problem has been bugging PowerBook owners: crashes when waking from sleep mode. Apple, Connectix Corp. and FWB Inc. have addressed this in software updates (see 04.29.96, Page 41; 12.11.95, Page 64; and 06.10.96, Page 39), but it persists in various configurations.

Crashes when waking from sleep mode continue to be a problem.

Reader Bryan Ressler confirmed a problem with formatter developers FWB and CharisMac Engineering Inc. in which only PowerPC-upgraded PowerBooks and Duos crash on waking. Casa Blanca Works Inc.'s Drive7 formatter solved the problem for him.

Colleague Jonathan Oski struggled for weeks with a new PowerBook 190 to eliminate crashes on waking. In his case, Drive7 did not solve the problem, but Hard Disk ToolKit 2.0 finally did.

Partitions and passwords

In June Apple released Drive Setup 1.0.5 (not Disk Setup as I erroneously termed it in an earlier column) to address another quirky problem, this one with custom icons and multiple partitions. The previous Drive Setup sometimes stamped multiple partitions with creation times that were absolutely identical. Unfortunately, the Mac OS uses variations in creation time to help distinguish among volumes, and this created confusion, especially with custom icons. Version 1.0.5 makes sure the volume-creation time-stamps differ slightly.

One other problem with multiple partitions occurs only in specific cases with formatting software from CharisMac. Clicking a box to add a password and then canceling can accidentally leave the volume locked and unavailable. Get the latest update from CharisMac (or APS Technologies Inc., which also distributes the formatter), or just be sure to follow through if you start to specify that a password will be used for a volume.

An article in Apple's Tech Info Library, titled "PB 190, 5300, 2300: Sad Mac Error After Installing At Ease," talks about another security glitch. In this case, installing At Ease for Workgroups 3.0 or 3.0.1 on one of these recent PowerBooks can cause a "sad Mac" start-up failure if the At Ease Administrator chooses the "Lock startup volume" option. Version 3.0.2 of At Ease for Workgroups fixes the problem, and Apple has the At Ease-IDE Utility program, which must be run from another start-up volume to recover from the lock-up. It affects only IDE (Integrated Drive Electronics) drives running recent versions of the IDE disk software, which support locking. □

Comments on MacInTouch are welcome at (508) 897-2621. Please address e-mail to ricford@macintouch.com on the Internet or 72511,44 on CompuServe. The MacInTouch home page is at http://www.macintouch.com/.

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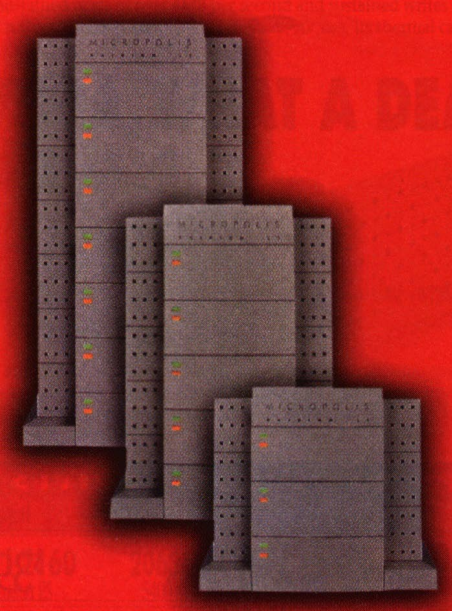

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4.3 GB	DT-14207	Conner NEW PRODUCT!	8.0 ms	5 yrs	$950	$1,025
4.3 GB	DT-3243	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	$875	$950
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4.3 GB	DT-15150	Seagate Barracuda NEW LOW PRICE!	8.0 ms	5 yrs	$1,075	$1,175
9.0 GB	DT-1991	Micropolis	12 ms	5 yrs	$1,725	$1,825
9.0 GB	DT-3391	Micropolis 3.5 " 9 GB	8 ms	5 yrs	$1,899	$1,999
9.0 GB	DT-410800	Seagate Elite 9	11 ms	5 yrs	$1,925	$2,025

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2.1 GB	DT-32550AV	Seagate Barracuda	8.0 ms	5 yrs	$725	$800
4.3 GB	DT-14207AV	Conner NEW PRODUCT!	8.0 ms	5 yrs	$950	$1,025
4.3 GB	DT-3243AV	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	$925	$999
4.3 GB	DT-15150AV	Seagate Barracuda	8.0 ms	5 yrs	$1,125	$1,225
9.0 GB	DT-1991AV	Micropolis NEW LOW PRICE!	12 ms	5 yrs	$1,825	$1,925
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4.3 GB	DT-3243W	Micropolis 3243Wide	5 yrs	$950	$1,050
9.0 GB	DT-1991W	Micropolis 1991Wide	5 yrs	$1,899	$2,025
9.0 GB	DT-1991AVW	Micropolis 1991AVWide	5 yrs	$1,999	$2,125
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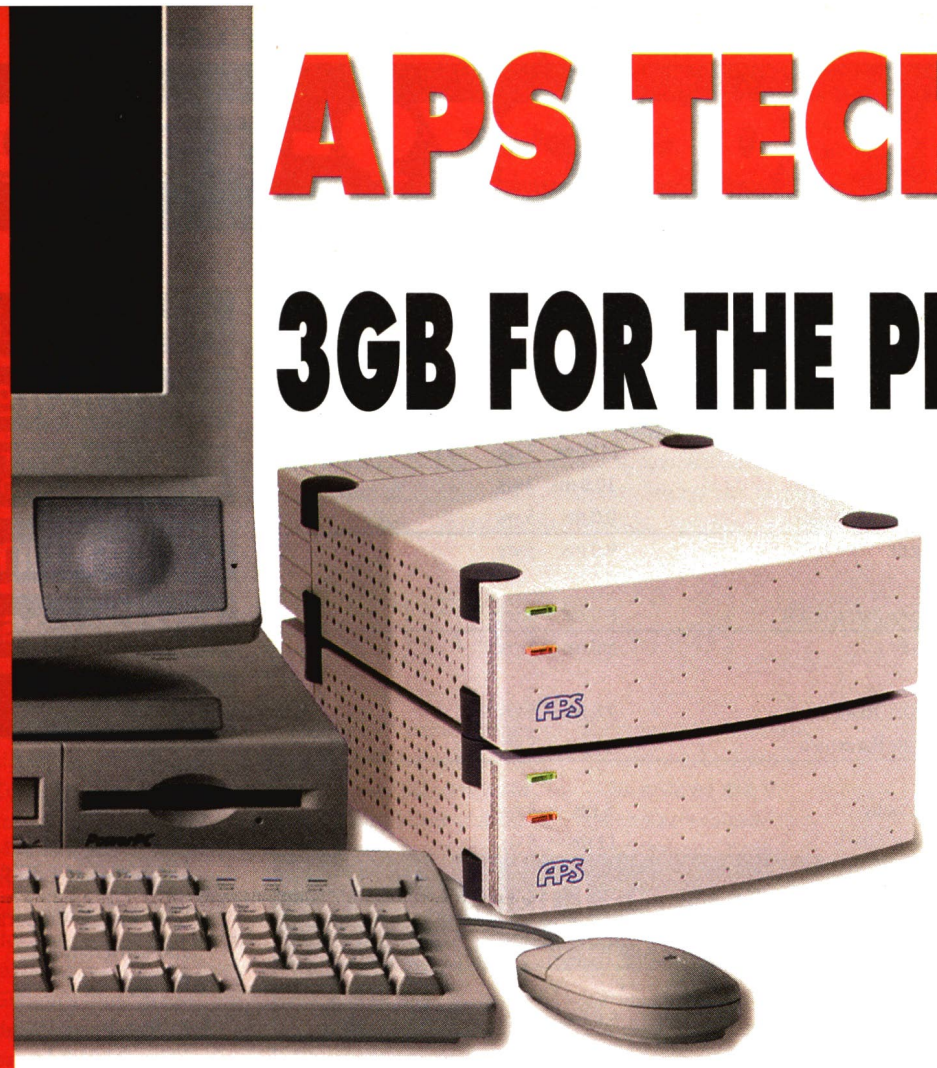

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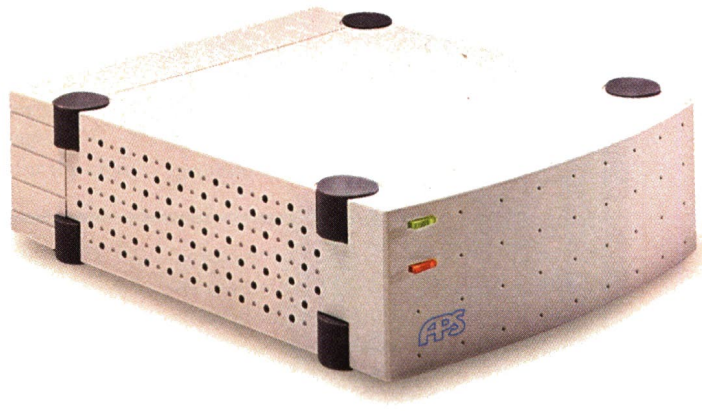

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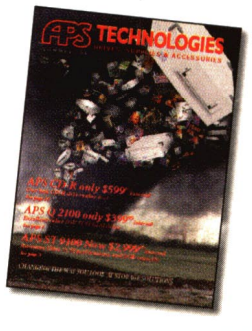

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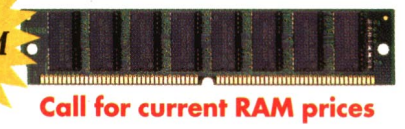

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APS HIGH-PERFORMANCE SCSI DRIVES

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APS MS 9.0 Micropolis 1991	8669MB 5400 rpm		1899.95	2099.95*
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- Refused orders subject to 20% restocking fee.
- Listed capacities are formatted.
- Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.
- Internal hard drives include brackets, cables, cords and LEDs required for operation with the specified Macintosh where applicable. External SCSI-2 drives come with a premium SCSI cable, power cord and user guide.
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The immense 1GB capacity of Jaz's removable media has changed the removable storage market forever! The APS Jaz's performance rivals most fixed-platter hard disk drives; and who would you rather buy it from than APS?

JAZ IS HERE!

1GB REMOVABLE NOW AVAILABLE!

GREAT PRICE **$499.95**

External configuration
SR 1000 or SR 2000 case

APS Jaz

Price includes one 1GB cartridge!

- ✔ Hard drive performance
- ✔ Huge 1GB capacity on removable media
- ✔ Choice of enclosure

IGE SR 2000 enclosure

POWER MATCHED FOR POWER PC

540MB REMOVABLE SyQuest COMPATIBLE

APS M540

GREAT PRICE **$299.95** External configuration

- ✔ 540MB capacity on removable media and full SyQuest 270 media compatibility
- ✔ Terrific removable media performance – sustained reads up to 2.68MB/sec. and a 9.9ms average seek

IGE POWER MATCHED FOR POWER PC

Attention graphics professionals and desktop publishers: you now have a high-capacity, high-performance removable disk alternative. The new APS M 540 provides 540MB of storage on reliable, single-platter media and is capable of transfer rates of up to 2.68MB/sec. The APS M 540 is also read/write compatible with your existing SyQuest 270 cartridges.

LOWEST PRICE EVER FOR DDS-2!

APS ProDAT®

- ✔ Up to 4GB of uncompressed data on a 120m tape
- ✔ Reads and writes 60, 90 and 120m DAT tapes

$699.95 External configuration

IGE

A $139 value – FREE

When a large uncompressed capacity and high speed is needed to handle backup chores for applications like digital video or multimedia, the APS ProDAT is the drive for you. Its 4GB capacity on standard 120m DDS-2 DAT tapes and backup speeds of up to 22MB per minute make the APS ProDAT the perfect drive for demanding backup needs.

HIGH PERFORMANCE 8X CD-ROM!

APS CD-8 Pro

- ✔ Fast 1.2MB/sec. transfer rates
- ✔ 115 ms average access
- ✔ Smooth video output

IGE **$299.95** External configuration 8X

Take advantage of the high performance 8X CD-ROM speed of the new APS CD-8 Pro to supercharge any CD-ROM application. The APS CD-8 Pro's 1200KB per second maximum transfer rates in 8X mode provide smoother full-screen video output than earlier generations of CD-ROM drives, and makes it terrific for use with large, complex files. Additionally, the fast average access time of the APS CD-8 Pro makes it a great match with interactive multimedia.

POWER MATCHED FOR POWER PC

APS QIC & DAT TAPE BACKUP SYSTEMS

Model	Capacity/Features	Awards	Internal	SR2000
APS HyperQIC™ Travan 4 Mechanism	2GB	MacWeek, MacUser ZD LABS 4½	N/A	$499.95
APS ProDAT® DDS-2 Mechanism	4GB		$649.95	699.95
APS HyperDAT® DDS-2 Compression Mechanism	8GB	POWER MATCHED FOR POWER PC	849.95	899.95
APS HyperDAT® Pro DDS-2 High-Speed Mechanism	8GB	POWER MATCHED FOR POWER PC	949.95	999.95

APS DLT TAPE BACKUP SYSTEMS

Model	Capacity/Features	Awards	Full-Height
APS DLT30 Digital Linear Tape Mechanism	30GB	POWER MATCHED FOR POWER PC; MacUser Editors' Choice Award 1995 FINALIST	$2999.95
APS DLT40 Digital Linear Tape Mechanism	40GB	POWER MATCHED FOR POWER PC	4999.95
APS DLT4500 Digital Linear Tape Loader	200GB	POWER MATCHED FOR POWER PC	8899.95

All APS tape drives include Retrospect® by Dantz®

APS REMOVABLES

Model	Capacity/Feature	Awards	SR1000	SR2000
APS SQ 5200 Compatible with 200, 88 and 44MB cartridges	194MB	MacWEEK, MacUser ZD LABS 4½	N/A	$399.95
APS M540 Compatible with SyQuest 270 & EZ 135 cartridges	500MB	POWER MATCHED FOR POWER PC	N/A	299.95
APS Jaz 1GB Jaz cartridges $99.95 ea.	1GB		$499.95	499.95

APS MO DRIVES

Model	Capacity/Features	Awards	SR2000
APS 230 MO 4500 rpm drive/230MB	230MB	MacUser ZD LABS 4	$449.95
APS PD4 650MB optical storage with 4X CD-ROM in one device	CD-ROM/Removable Optical		499.95*
APS 2.6GB MO 4MB cache/2.6GB	2.6GB Uses 2.6GB cartridges or 1.3GB cartridges	POWER MATCHED FOR POWER PC	1799.95

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- Drive-for-Drive Repair or Replacement Warranty. APS will, at its discretion, replace or repair products found to be defective according to the terms of the product's warranty.
- Refused orders subject to 20% restocking fee.
- Listed capacities are formatted.
- Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.
- Internal hard drives include brackets, cables, cords and LEDs required for operation with the specified Macintosh where applicable. External SCSI-2 drives come with a premium SCSI cable, power cord and user guide.
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8X CD-ROM DRIVE

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APS CD-8

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ICE SR 2000 enclosure

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Smooth full-screen video output, the 8X performance of the new APS CD-8 supercharges any CD-ROM application! Its speed enhances multimedia AND business CDs. At this incredibly low price, you can hardly afford to live with that old 2x or 4x CD-ROM drive.

ULTIMATE CD-R MASTERING SYSTEM

APS CD-R Mastering System 2.0

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- ✔ Free copy of TOAST CD-ROM Pro – a $500 value
- ✔ Now comes with the new APS MS 2000AV hard drive!

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A $399 value – FREE DISCRIBE

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- ✔ Random access gives you fast retrieval
- ✔ Supports variable and fixed packet writing

$599.95 External configuration

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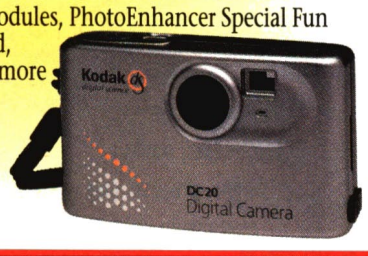

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	REG. PRICE	VALUE PRICE
128MB MO CARTRIDGE	$23.95	$19.95
230MB MO CARTRIDGE	33.95	24.95
1.3GB MO CARTRIDGE	85.95	74.95
2.6GB MO CARTRIDGE	99.95	89.95
MAXELL CLEANING TAPES		
4mm	$12.95	$9.95
8mm	24.95	19.95

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	REG. PRICE	VALUE PRICE	VALUE PACKS	YOU SAVE	VALUE PRICE
60m DAT	$8.95	$6.95	60m DAT 5PK & CLEANING TAPE	20%	$39.95
90m DAT	9.95	7.95	90m DAT 5PK & CLEANING TAPE	OVER 15%	44.95
HS8/112	8.95	7.95	HS8/112 5PK & CLEANING TAPE	OVER 20%	49.95
HS8/160	16.95	14.95	HS8/112 5PK & CLEANING TAPE	OVER 15%	84.95

Retrospect CD-R drop in driver	$49.95
Retrospect with CD-R driver	99.95

30-DAY MONEY BACK GUARANTEE

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APS CD DRIVES

Model	Features	External
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APS CD-8 Pro Data transfer rates up to 1200KB per second!	8X-SPEED	299.95
APS CD-R FREE Discribe CD recording software ($399 value)	Recordable CD-ROM	599.95*
APS CD-R Plus FREE TOAST CD-ROM Pro recording software ($500 value)	Recordable CD-ROM	899.95*
APS CD-R Pro FREE TOAST CD-ROM Pro recording software ($500 value)	4X4 Performance CD-R	1499.95**
APS CD-R Mastering System 2.0 4X read/4X write recording engine and a 2GB AV scratch disk		1999.95*
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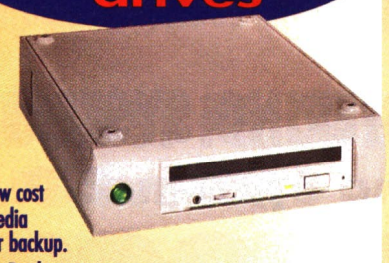

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▲ CD-Rs ship with Gear Multimedia software.

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CD-Recorders

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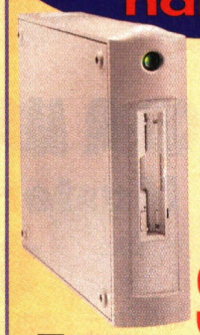

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▲ Compact storage convenience.

LACIE STORAGE UTILITIES

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	PowerBook	Internal	External
230MB 1 yr. warr.	$399	$389	$399
640MB External			$599
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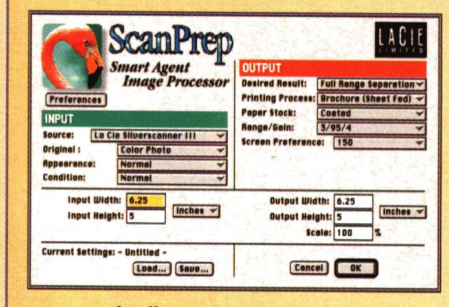
Highest Possible Rating ◆◆◆◆◆

"No matter what acquired plug-in you get if you use Photoshop, you'll also want to buy a copy of ScanPrep."
– MacUser
Highest Possible Rating ⚡⚡⚡⚡⚡



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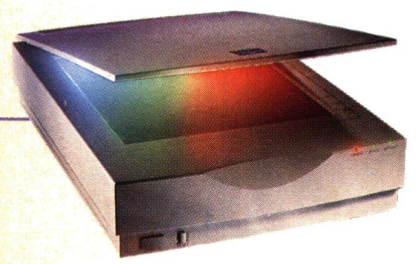

Silverscanner PRO with Photoshop LE
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- ▲ ScanPrep ▲ Silverscan
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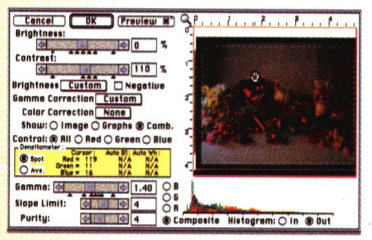

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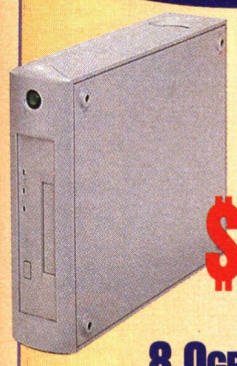

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8.0GB DAT DDS-2

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- ▲ Unplug and go for convenient data transport, ideal for security and backup solutions

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1280MB Quantum Fireball 3 yr. warr.	$399
2.1GB Quantum Fireball TM 3 yr. warr.	$659
3.2GB Quantum Fireball TM 3 yr. warr.	$759
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2.1GB Quantum Fireball TM 3 yr. warr.	$659
3.2GB Quantum Fireball TM 3 yr. warr.	$759
4.3GB Quantum Atlas 5 yr. warr.	$1099
Joule Bases – Supports Stacks Up To 6 Drives High	
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cartridges

	Qty. 1	Qty. 10
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Syquest SQ400 44MB	$38 ea.	$37 ea.
Syquest SQ800 88MB	$42 ea.	$41 ea.
Syquest SQ2000 200MB	$62 ea.	$61 ea.
Syquest SQ105 105MB	$53 ea.	$52 ea.
Syquest EZ135 135MB	$18 ea.	$17 ea.
Syquest EZFlyer 230MB	$30 ea.	$29 ea.
Syquest SQ3270 270MB	$48 ea.	$47 ea.
Optical 128MB	$16 ea.	$15 ea.
Optical 230MB	$21 ea.	$20 ea.
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Optical 2.6GB	$85 ea.	$84 ea.
CD-R 74 650MB		$8.99 ea.
DAT 90m	$9 ea.	$8 ea.
DAT 120m	$24 ea.	$25 ea.
DAT Cleaning Kit	$9 ea.	$8 ea.
DLT 30 30GB	$40 ea.	$39 ea.
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Radius SuperMatch 21 TXL	from $1699*
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*With qualifying videocard, accelerator, or computer purchase

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Radius PrecisionColor 8/1600	$499
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21" RESOLUTIONS

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*DSP Available

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- Multiple resolutions up to 21"
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- Uses PDS slot leaving your PCMCIA slot available for other uses.

The Lapis Color MV card is the only solution that does not use your PCMCIA slot, thus allowing for additional uses such as a modem for your PB5300. Since the card was jointly developed with Apple, it is virtually the only ethernet solution that does not drop data packets and is the only external video solution available.

For prices starting from $249, you will not find a better value!

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All PCI PowerMacs Available -- CALL for Lowest Prices Ever!!

PowerMac 8500/120, 132 & 150MHz	from $2799
PowerMac 9500/120, 132 & 150MHz	from $2999
PowerMac 7500/100 & 7600/120	from $1999
PowerMac 7200/90 & 120MHz	REDUCED!

Prices with Monitor Purchase

Save up to $500 on Complete System Purchase!!

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- Power PC 603/75MHz RISC processor
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STAR SJ-144MC 360 dpi Heat Fusion Printer	$199

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- 22ppm • Dual-tray input

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QMS PS1700 for Macs and PCs from $1499
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VIDEO CARD BUYING GUIDE - ALL HARD TO FIND CONFIGURATIONS ARE IN STOCK NOW!!

Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Radius FPD Card	Mac Plus	Mono	–	–	–
Radius Pivot Card	SE/30	256	–	–	–
Xceed Color 30hr	SE/30	256	256	256	256
Lapis Color 16	SE/30	Thousands	Thousands	256	256
Lapis Color 24	SE/30	Millions	Millions	256	256
Radius Direct Color/gx	IIsi	Millions	–	–	–
SuperMac Spectrum 8	IIsi	256	256	256	256
SuperMac Spectrum 8.24	IIsi	Millions	256	256	256

Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Radius FPD Card	Mac SE	Mono	–	–	–
SuperMac Superview	Mac SE	–	–	Mono	–
Radius TPD Interface	Mac SE	–	–	–	Mono
RasterOps 8/LC	LC/PDS	–	–	256	–
SuperMac Spectrum 8	LC/PDS	256	256	256	256
Lapis Color 16 for LC	LC/PDS	Thousands	Thousands	256	256
Micro Conversions 1724	LC/PDS	Millions	Millions	256	256
Lapis Color 24 for LC	LC/PDS	Millions	Millions	256	256

Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Double Color SX	Nubus	256	256	16	–
RasterOps 708+	Nubus	256	–	256	–
RasterOps 24L	Nubus	Millions	–	–	–
RasterOps 8/LC	Nubus	–	–	256	–
SuperMac Spectrum 8	Nubus	256	256	256	–
Double Color LX	Nubus	256	256	256	256
Radius Direct Color 24	Nubus	–	–	–	Millions
E-machines Futura MX	Nubus	Millions	Millions	Millions	–

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Seagate Hawk 2XL

- 2.1GB
- Ultra SCSI 3
- PRML
- Low profile
- Embedded Servo
- 5 yr warranty
- $ 620

5 YEAR WARRANTY

BRAND/MODEL	CAPACITY		ACCESS	RPM	INTERNAL	EXTERNAL
Hitachi 2.5" IDE***	810MB		14MS	5400	$ 339	
Hitachi 2.5" IDE***	1.0GIG		14MS	5400	$ 425	
Seagate ST51080N ***	1.2GIG	LP	12.5MS	5400		$ 360
Seagate Hawk 2XL***	1.2GIG	LP	9MS	5400		$ 469
Conner CFP2107S	2.1GIG	LP	8MS	7200	$ 615	$ 685
Seagate 32155N	2.1GIG	Ultra SCSI	9MS	5400		$ 620
Seagate Barracuda 2	2.5GIG	LP	8MS	7200		$ 795
Seagate Barracuda 2W	2.5GIG	LP	8MS	7200		$ 865
Fujitsu M2934S	4.2GIG	MR	8MS	7200	$ 975	$ 1045
Fujitsu M2934Wide	4.2GIG	MR	8MS	7200	$ 975	$ 1045
Seagate Barracuda 4	4.1GIG		8MS	7200		$ 1205
Seagate Barracuda 4W	4.1GIG		8MS	7200		$ 1325
Seagate Hawk4	4.3GIG		9MS	5400		$ 999
Conner CFP4207S	4.2GIG		9MS	7200	$ 949	$ 1019
Conner CFP4207wide	4.2GIG		9MS	7200	$ 1099	$ 1199
Quantum Atlas	4.3GIG		8.6MS	7200	$ 999	$ 1069
Seagate Elite 9	9.0GIG		11MS	5400		$ 2195
Seagate Elite 9W	9.0GIG		11MS	5400		$ 2395

CD RECORDERS/PLAYERS

Ricoh 2 speed recorder / 4 speed player

1420

2MB Buffer

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The only CD Recorder in the industry with 2MB of Buffer to eliminate under-runs ! This is the Recorder that the Audio Community is using. You should too!

Includes Free software

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Pioneer 4 speed 18-Disc CD-ROM Changer	External	$ 1499
Philips 8 x speed CD Player	External	$ 325
Nakimichi 8 x 4-Disc CD-ROM Changer	External	$ 599
Panasonic 4x CD/650MB Optical	External	$ 499
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- 28mb/sec sustained sequential Writes.
  Tested with MacBench on PowerMac 9500.
  12GIG with 2 PCI accelerator cards $ 6999

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Adaptec AHA-2940UW	$ 295
Adaptec AHA-3940UW	$ 355
SCSI Expander	$ 999

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External, Remus software, and cabling

• 4 GIG Fast and Wide Raid	$ 2099
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• 16 GIG Fast and Wide RAID	$ 5570
• 28 GIG Fast and Wide RAID	$ 9199
• 40 GIG Fast and Wide RAID	$ 14599

TARGA 2000 radius

OPTICAL DRIVES

$1959

2.6GIG Sony Optical for $1959 external including all cabling, and software!!

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230MB	Fujitsu	$ 499
2.6GB	Hitachi	$ 1895
2.6GB	Sony 1MB cache	$ 1959
2.6GB	Sony 4MB cache	$ 2159
26GB	Sony Jukebox	$ 4695
52GB	Sony Jukebox	$ 6295

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We are the tape-backup Experts

2 YEAR WARRANTY

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All systems include cabling, and Retrospect software.

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-8GIG	Sony 7000 DDS-2* MW ★★★★	4MM	$ 929	$ 999
-14GIG	Exabyte 8505XL	8MM	$ 2065	$ 2125
-14GIG	Exabyte 8700	8MM		$ 1575
-40GIG	Exabyte Mammoth	8MM		$ 5499
-30GIG	DLT2000XT	1/2"		$ 2999
-40GIG	DLT4000 MW ★★★★	1/2"		$ 4599
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$119.95 S198 2001

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Jaz 1.0GB Drive

Includes One Free Cartridge

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In Stock

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- 10MS access time
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S198 1013	105MB	$35ea	$34.50ea	$34ea
S198 1014	270MB	$57ea	$56ea	$55ea
S198 2010	EZ135MB	$24.95ea	$23.95ea	$23ea
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Features:
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190ms avg access time
Caddy-less design

$149 C104 1700

ClubMac®

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C104 1700	ClubMac 4.4X-Speed CD-ROM Drive	140ms	600k/sec	$149

NEC

		Access Time	Trans Rate	
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N024 1070	MultiSpin 4Xc 7 Disc Changer	350ms	600k/sec	$339
N024 1011	MultiSpin 3Xp plus Portable CD-ROM	240ms	500k/sec	$349

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YAMAHA® 4X CD Recorder

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w/Toast CD ROM Pro 3.0 CD Mastering software

ClubMac® 2X/4X CD-ROM Recorder

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150MHz PowerPC

Multi-Processor Upgradeable!

*Monitor sold separately

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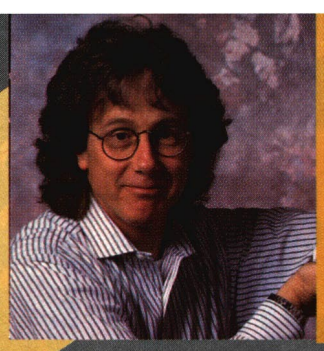

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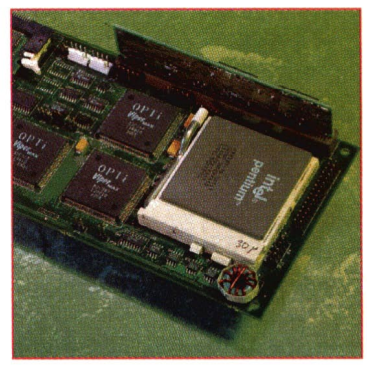

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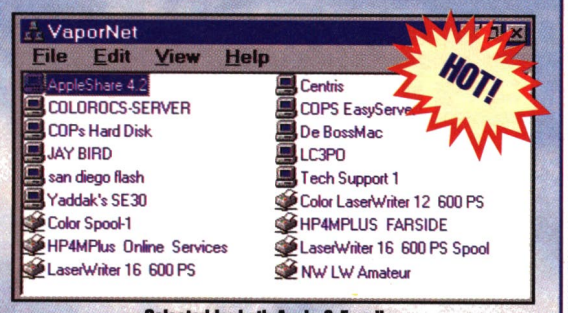

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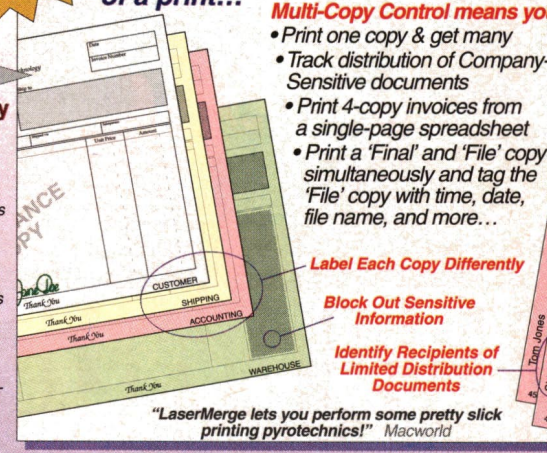

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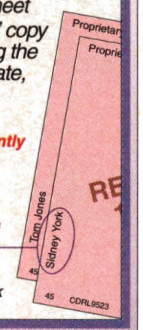

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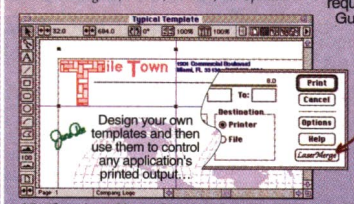
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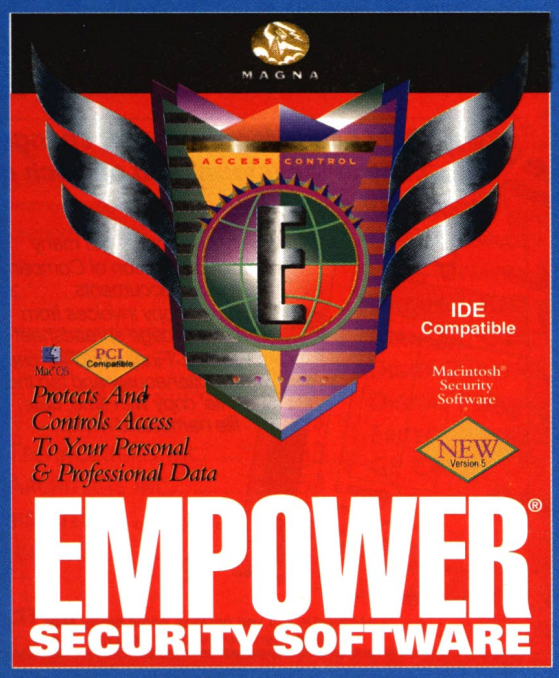

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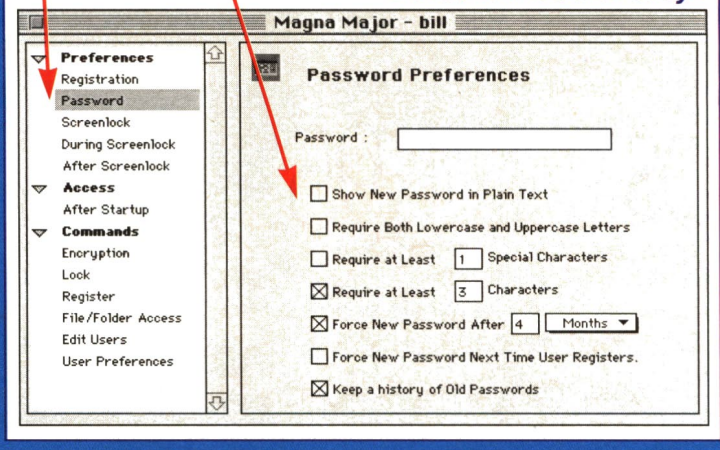

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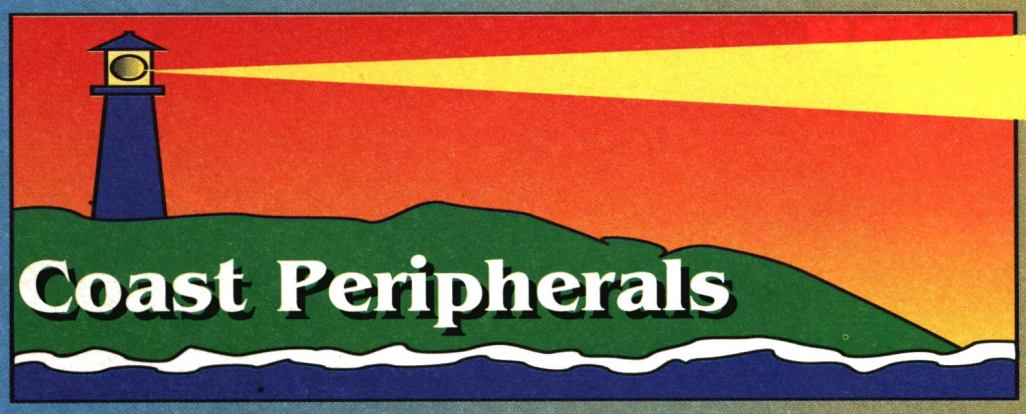

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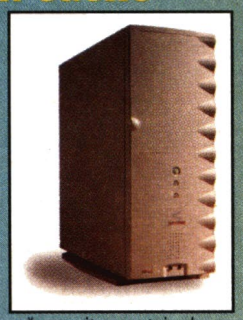
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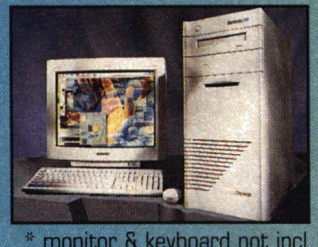
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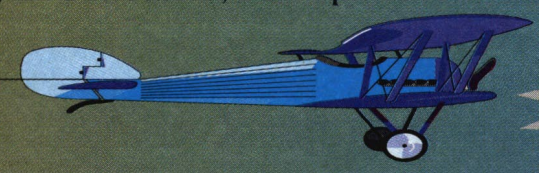

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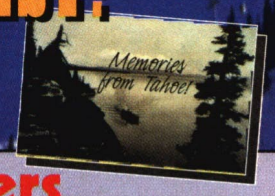

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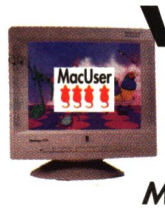

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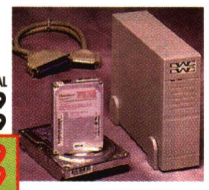

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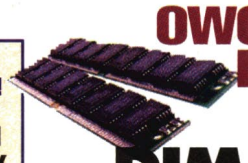

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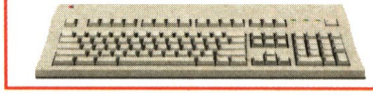

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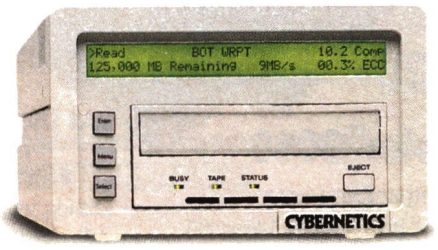

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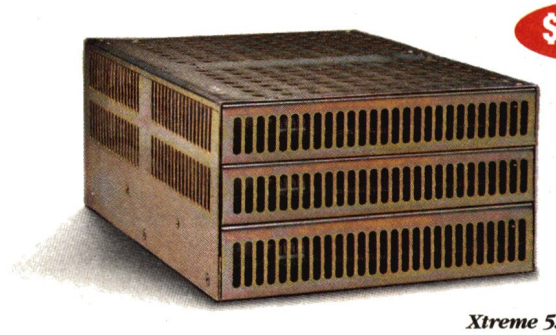

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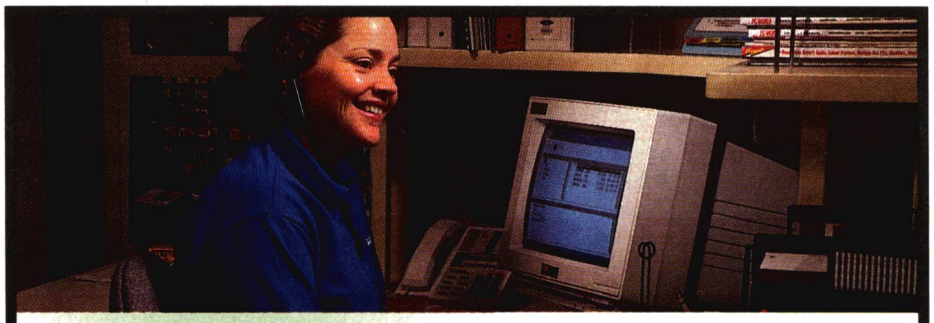

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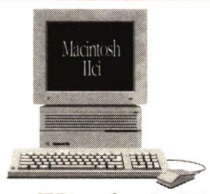

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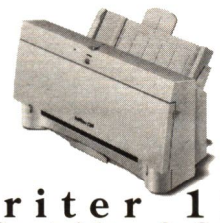

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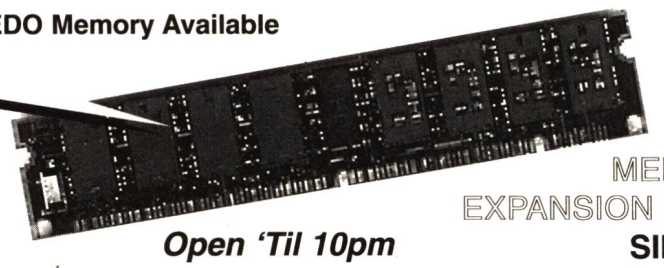

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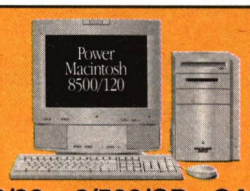

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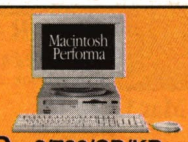

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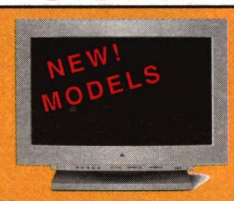

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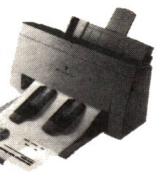

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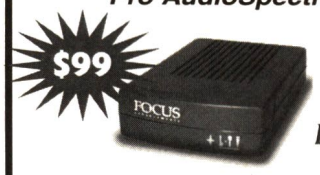

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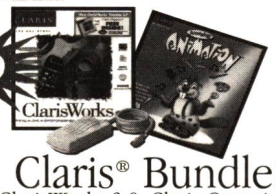

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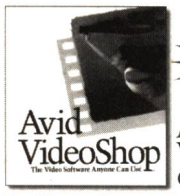

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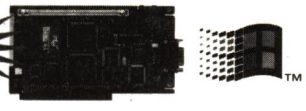

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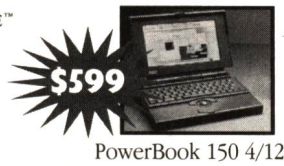

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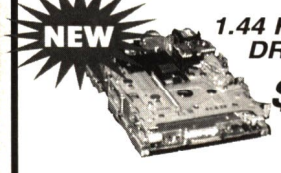

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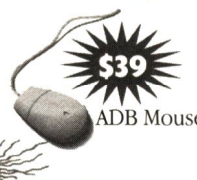

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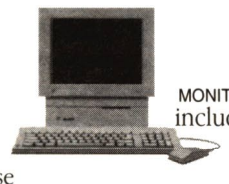

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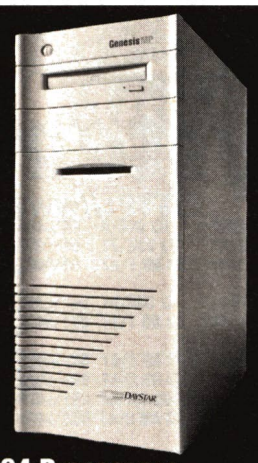

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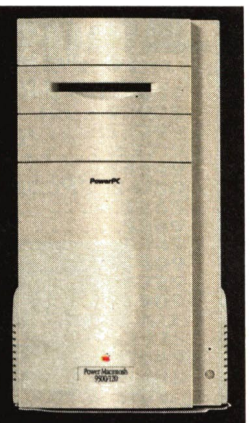

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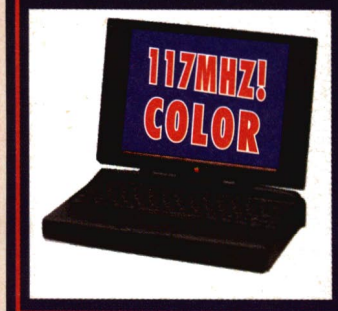

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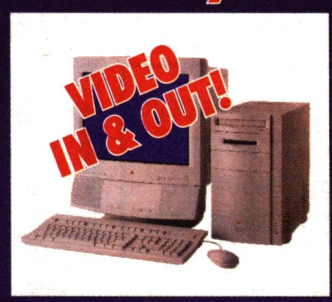

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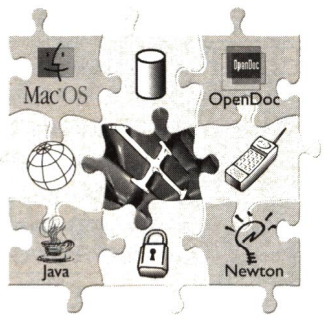

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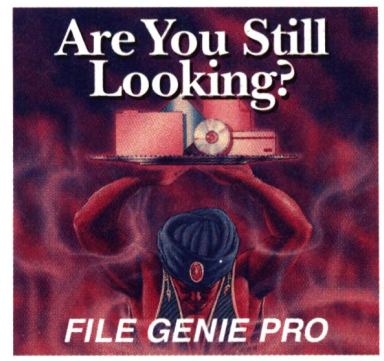

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Expo

From Page 1

its "We're fighting back for Mac" T-shirts, seen on scores of show attendees.

The wide range of CPU introductions from Apple, Power Computing and UMAX Computer Corp. helped to keep show goers optimistic about the Mac in general and enthused about Web publishing tools, printers, scanners and digital cameras exhibited here — proving that the Mac's core markets remain strong.

About 430 vendors exhibited at the show, and attendance was expected to be slightly higher than last year's 62,000 figure, according to Mitch Hall Associates, which produces the show.

Probably no booth was more crowded than that of Power Computing, which titillated attendees with a live version of "You Don't Know Mac," a Mac trivia game with questions culled from Owen Linzmayer's "Mac Bathroom Reader." Participants were invited to shout out answers to questions such as "Which Mac was codenamed Mr. T?" (Answer: the Mac Plus.) In fact, Power Computing's booth was so crowded that at one point security guards threatened to shut down the game.

SETH RESNICK

Hot products from first-time exhibitors raised the temperature in the Bayside Exposition Hall's Developer Greenhouse.

Power also hosted bungee-jumping at the World Trade Center. Each day, daredevils lined up to jump from a 225-foot crane and screamed as they bounced over Boston Harbor. Reports of hefty insurance policies taken out by Power did little to deter the eager participants.

Vendors expressed mixed feelings about attendance the first day at the show: Some said the keynote speeches Wednesday morning drew attendees away from the expo, while others claimed the show floor was more crowded than it was last year. By mid-morning Thursday, Connectix Corp. said it had sold half the RAM Doubler 2.0 copies the company had brought.

Fate — or the luck of the draw — put Adobe Systems Inc. and Claris Corp. across from each other, and attendees got caught in the crossfire of the dueling Web-editor demos of PageMill 2.0 and Claris Home Page 1.0.

Across town at Bayside, it was impossible to miss Apple's stylish new Performa 6400s machines with their integrated subwoofer proclaiming their presence loudly at the company's booth. Apple also showed a 1394 (FireWire) card with a Sony digital camcorder and showed off the capabilities of Avid Cinema, Apple's new video-editing suite. Also at the booth, Apple helped attendees work with Live Objects in a hands-on OpenDoc class.

At Developer Central, Apple pointed its QuickTime Conferencing tool at an Apple staffer back in Cupertino, Calif. The remote employee would watch for passing show goers and hail them by yelling, "Hey, how's it going?" Almost everyone kept walking.

Vendors in Bayside's Developer Greenhouse, a clearinghouse for upstart companies, said they were pleased to find themselves next to IBM Microelectronics Division, which was handing out Mac OS licensing kits in cardboard boxes.

"We love them boxes because everybody wants them, and they have to pass us to get it," said Peter Caylor, president of The Excelsior Group, who was demonstrating his LaundroMac utility in the Greenhouse.

Even though America Online was down for most of the first day of the show, the company's booth remained full of online enthusiasts eager to see the beta version of AOL 3.0. A few booths away, Specular International Ltd. CEO Adam Lavine juggled machetes in between demos of the company's Infini-D 3.5 and 3D Web Workshop. □

Canon

From Page 1

support for color halftones.

Canon Computer's $499 BJC-4550 outputs 720-dpi color images to plain or coated paper measuring up to 11 by 17 inches. The device prints 1 ppm in color and 5 ppm in black and white, the company said.

The BJC-4550 includes parallel and serial ports, so it can be shared by users on mixed-platform networks, the company said.

For $99, Mac users can purchase a PostScript Level 2 software RIP developed by Birony Graphics Corp. of Melbourne, Fla.

These Mac-focused products represent a strategic departure for Canon, which has supplied printer engines to major Mac vendors, including Apple and Hewlett-Packard Co., but packaged printers only for Intel-standard PCs.

"We're not here to compete against Apple's Color StyleWriter 1500," said product manager C.J. Meiser. "But for 11-by-17 printing, the BJC-4550 is a product that doesn't exist anywhere else at that price."

Epson, besides delivering the Stylus Color 500, a $279, 720-dpi color inkjet (see story, Page 4), rolled out the Expression 636, an $899 color flatbed scanner that captures 12 bits each of RGB information per pixel in a single pass.

The device's CCD (charge-coupled device) array captures images of up to 8.75 by 12 inches at a resolution of 600 dpi, or 4,800 dpi via software interpolation. The device has parallel and SCSI interfaces and comes with a Twain driver. It also supports ColorSync 2.0, Apple's system-level color-management extensions, Epson said. Besides the basic model, Epson offers bundles that include graphics and OCR software.

SETH RESNICK

Canon went wide format for its latest move in the inkjet printer market.

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Epson America Inc. of Torrance, Calif., is at (310) 782-0770 or (800) 289-3776; fax (310) 782-5220; http://www.epson.com. □

Siggraph

From Page 1

films and watched wire-clad dancers demo motion-capture technology.

Apple's booth — a far cry from 1995's tiny one — drew a sizable crowd and showcased several brand-new Mac developers.

"I can't do that on Alias right now," said Lionel Loh, principal graphic designer at the Television Corp., who was watching a demo of LightWork Design Ltd.'s new Raydiosity plug-in renderer running on Newer Technology Inc.'s RenderPIX 3-D accelerator board, which is due later this year.

Intervista Software Inc. introduced free software that converts Macromedia Inc.'s Extreme 3D models, materials, lights and cameras into VRML 2.0 content.

3Dlabs Inc. unveiled the Glint 500TX 3-D chip and its sidekick, the Glint Delta pipeline chip. Radius Inc. announced its Thunder 3D board based on the 500TX; Newer Technology's board will use two of the 3-D chips. 3Dlabs shipped Permedia, a low-cost 3-D chip that works with QuickDraw 3D and QuickDraw 3D RAVE.

Integrated Computing Engines Inc. and Adobe Systems Inc. demonstrated a new massively parallel-processing system that accelerates After Effects. The systems are due in the fourth quarter for less than $15,000.

For some vendors, the laid-back crowd took some getting used to. "The drunken customers just love our new monitors," said Kimberly See, a PR specialist with Radius, which skipped Macworld Expo for Siggraph. "Someone's giving away free beer. They're the best, once you get over their breath." □

Apple shows futuristic multimedia at Siggraph

At Siggraph 96 last week in New Orleans, much of the attention at the Apple booth was on QuickTime 2.5, which shipped shortly before the show began. The new version got kudos from end users. "I love it," said Robert Gonzales, a Macintosh user from Burbank, Calif. "It's long overdue, but it's wonderful. I think it will explode the possibilities of the Web."

At last Wednesday's QuickTime Open Technology Forum, Apple engineers gave developers previews of some coming attractions. Video effects such as dissolves and wipes may be implemented within future versions of QuickTime, with modifier tracks holding effects separately from the video tracks.

Apple also hinted at growing cooperation with Silicon Graphics Inc. of Mountain View, Calif., in several areas. "When you go into a Disney or a Viacom or a Warner Bros. it's all SGIs and Macs, and they're saying, 'We don't want to go to NT, we want our stuff to work better,' " said Carlos Montalvo, director of Apple's Interactive Media Group. "We're looking for bridges to SGI."

At the QuickDraw 3D Open Technology Forum, Gavin Miller, manager of graphics research at Apple Research Labs, showed several demonstration models of prototype QuickDraw 3D software.

To gasps from the audience, Miller showed animated QuickTime VR movies with ceilings and floors, on-the-fly reflection and environment mapping, a new mesh-smoothing modeling technique, and a startlingly realistic water ripple that interacted with the mouse. — *By Kelly Ryer*

This pool is courtesy of Apple Research Labs, formerly the Advanced Technology Group. When a user drags the pointer over the water, ripples intersect.

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Motorola plays coy with clone specifics

By David Morgenstern

Motorola Computer Group gave Macworld Expo attendees a peek at its forthcoming Mac clones last week. While company executives said the technology demonstration used prototype systems, Motorola reportedly will detail its models in the third quarter.

BOB HOUSER

Shrouded in the guise of a technology demonstration, Motorola showed its first Macintosh clones, housed in PC cloner cases.

The Austin, Texas-based company showed minitower and desktop models based on Apple's low-cost logic-board design, code-named Tanzania. The boards are clad in industry-standard LPX-size enclosures.

One demo machine ran off a 180-MHz PowerPC 603e processor, a 256-Kbyte Level 2 cache and 32 Mbytes of RAM. The system used an Enhanced IDE (Integrated Drive Electronics) mechanism; the Tanzania design will let vendors choose between internal Fast SCSI-2 or E-IDE.

Sources said the minitower systems will offer five PCI slots; the desktop will sport three slots. Both models are expected to offer external SCSI, Ethernet, PS/2 keyboard and ADB connectors.

Motorola was the first to show boards based on the Tanzania design. Several clone vendors, including Power Computing Corp. of Round Rock, Texas, and UMAX Computing Corp. of Fremont, Calif., last week released models based on Apple's Performa 6400 logic-board design, code-named Alchemy.

Motorola declined to comment on unannounced products. □

Keynote

From Page 1

Amelio said. Similar to the scheme code-named Harmony, Mac OS 8 features will be added to the OS every six months (see 05.20.96, Page 1). He said system software will rely increasingly on OpenDoc's component architecture.

After discussing the importance of OpenDoc and interoperability to Apple's strategies, Amelio highlighted a new connectivity technology called Meta Content Format, or MCF. He said MCF will let diverse database systems communicate so search engines can view them as a single database. "It will do for databases what HTML did for text," Amelio said.

Amelio also reiterated that Apple will focus on core CPU designs, industrial design, performance and reliability.

At a subsequent session for press and analysts, Amelio said Apple will ally with major third-party developers to produce its next generation of digital cameras. "We will seek technological alliances in areas where Apple needs a presence," he said.

Amelio told analysts that Apple will not be early out of the gate with a PowerPC Platform, or PPCP, system. The company plans to release its first PPCP models in the third quarter of 1997. However, the company will support third-party efforts with a version of System 7.5 for the platform early next year.

Analysts expressed concerns that Apple's tardy entry into the PPCP market will also delay cost savings from volume shipments of compatible logic chips. According to Pieter Hartsook, publisher of The Hartsook Letter in Alameda, Calif., Apple will ship 5 million units in 1997; Mac OS-compatible vendors will ship 1 million systems.

The keynote also offered a hint at Apple's hardware and software directions. Demonstrations by Frank Casanova, director of Apple's Advanced Prototyping Laboratories, included a Power Mac 9500 running a pre-release 250-MHz PowerPC 604e daughtercard. He also showed Vespa Linear, an extension of the V-Twin search engine that summarizes the content of documents by reducing them to a single sentence that best represents the entire file based on user-specified criteria.

Casanova also showed Apple Data Detectors, a tool that examines a document and extracts information such as a URL, mailing address or phone number. A pop-up list of options lets users copy the mailing address to their contact manager, open the URL with a Web browser or copy the contact information into a letter.

In addition, Casanova unveiled several Finder prototypes, including one with "slap-back" folders that resembled briefcases laid on their sides. The prototype displayed a thumbnail image of a document when the pointer passed over its icon. Casanova said the group hopes to let users modify files without having to open creating applications.

Multimedia features included an interactive multimedia desktop for the Finder; it displayed a pool of water that reacted to user actions (see story, Page 74). Casanova also showed a version of QuickTime VR with moving images in the panoramic scene.

The presentation also included innovative hardware designs, most of which Casanova said will not become products. The exception was a clamshell-shaped PowerBook with a built-in handle. □

Java

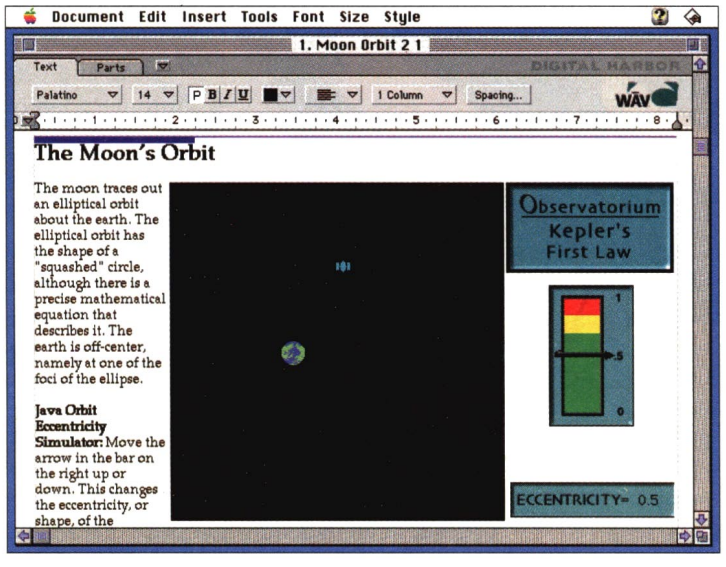
From Page 1

tems Inc. and two implementations of the Java applet viewer: a stand-alone desktop application and a Live Objects part for OpenDoc applications. Both 680x0 and PowerPC versions are in development. Only the Power Mac version was shown at the expo. Apple said the MRJ requires 1 Mbyte of RAM and 2 to 3 Mbytes of disk space.

The version demonstrated last week contained Sun's virtual machine and no just-in-time (JIT) compiler, said Eric Shapiro, Apple Internet component evangelist. The applet viewers for the Mac desktop and OpenDoc were written by Apple, he said. Shapiro said Apple plans to let users run both Java applets and full-blown Java-based applications in the OS.

Apple in May licensed a Java virtual machine from Sun, along with a virtual machine and a Java JIT from Natural Intelligence Inc. of Cambridge, Mass. Shapiro said Apple will replace its virtual machine with a faster version that includes a JIT based on code from Apple and Natural Intelligence.

Also expected with the final version is a collection of APIs that will let developers Java-enable their non-OpenDoc applications.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Observatorium
Kepler's First Law
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ECCENTRICITY= 0.5

Apple's Java Live Objects component lets users grab applets from the Internet and run them from within any OpenDoc document.

Apple said it is also progressing with several initiatives to increase the capabilities of Java.

Jim Gable, vice president of marketing for AppleSoft, said the company is working with Sun on JavaBeans, an interoperability layer that will let OpenDoc parts and Java applets communicate. Shapiro said the company is working on tools to let developers write OpenDoc parts in Java so that a single part can be deployed on multiple platforms.

Shapiro said Apple is also at work on its suite of Java multimedia classes, code-named Biscotti, that lets applets display QuickTime movies, QuickTime VR scenes, and QuickDraw 3D objects and environments (see 06.10.96, Page 22). □

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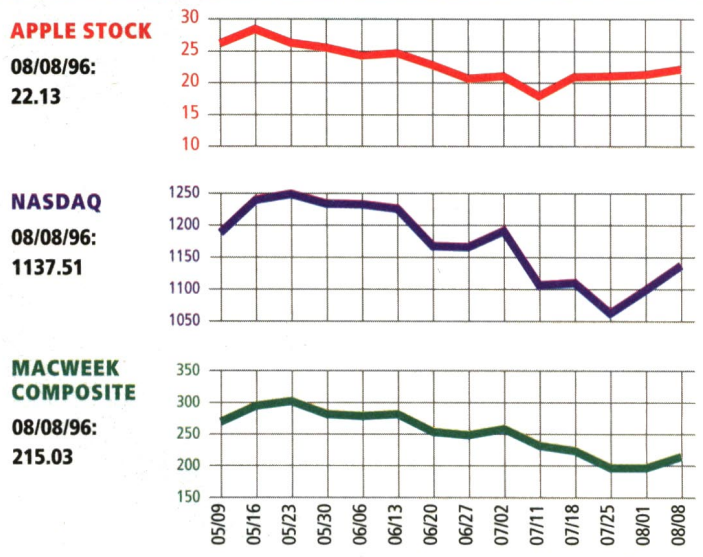

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Caere	9.50	-0.38
CE Software	1.94	0.69
Fractal	12.38	1.38
Graphsoft	6.88	-0.13
Insignia	6.57	0.63
Intuit	39.75	4.31
Macromedia	21.75	4.38
Microsoft	125.25	4.63
Novell	12.00	1.13
Oracle	40.75	1.50
Symantec	10.88	1.19
STORAGE		
Iomega	17.63	0.38
Pinnacle	6.38	0.13
Quantum	13.06	0.56
Seagate	52.13	3.25
SyQuest	7.38	1.75

	08.08.96 CLOSE	WEEKLY CHANGE
PERIPHERALS VENDORS		
AmeriQuest	0.69	-0.06
Asanté	5.44	0.06
Focus	2.63	0.19
Global Village	6.63	0.13
HP	46.13	2.38
QMS	5.13	0.13
Radius	1.63	-0.09
Shiva	59.88	5.38
Tektronix	40.50	2.13
Truevision	6.25	-0.75
DISTRIBUTORS		
CompUSA	43.75	1.25
IE	6.13	0.50
Merisel	2.88	0.00
Tech Data	23.25	0.50
INDUSTRY INDICATORS		
Compaq	57.50	2.00
IBM	113.38	6.13
Intel	80.75	3.75
Motorola	57.75	3.38
SGI	22.75	0.25
NASDAQ	1137.51	38.66

**The MacWEEK Composite is calculated by adding the stock prices of the following companies: Apple, Adobe, Asanté, Caere, CE Software, Global Village, Intuit, Macromedia, Radius, Shiva, SyQuest and Truevision. Source: Nordby International Inc.*

CPU

From Page 1

Power Computing Corp. of Round Rock, Texas.

Both performance and pricing impressed users at the expo.

"The price is great for what you get," said Harry Brown, a workstation specialist at Harvard Business School here, who said he was interested in Power Computing's high-end and entry-level lines.

Power Computing's high-performance models also appealed to Newton Levine, a teacher at Ramapo College in Mahwah, N.J., who said the company has "their act together." Levine was also encouraged by innovations in the platform. "They seem to be leading rather than following," he said.

But not everyone was eager to purchase the new machines. Some expo attendees said they wanted inexpensive, fast systems without unnecessary extras. Others said they plan to wait for a completely Power Mac-native OS that will better utilize faster processors before buying a new, pricier model.

Moe Comeau, vice president of the Main Line User Group in Valley Forge, Pa., said good prices can be found with Apple's entry-level lines. "I would stick with older technology, like a [Power Mac] 7100 or a 7200," he said.

Some users complained that Macintosh prices are still too high, whether from Apple or clone vendors.

According to Bruce Tinkler, a senior network administrator at Lexington, Mass.-based Lockheed Martin Infrared Imaging Systems, fully equipped Intel-based PC systems are available from vendors such as Gateway 2000 Inc. for as little as $1,500. However, Tinkler said, he can't find comparable deals on the Macintosh side. "We buy 7200/75 machines," he said. "We need entry-level machines at a good price point — we don't need all the other stuff."

Jim Leitner, Macintosh applications support staffer at Brigham and Women's Hospital here, pointed to bottlenecks with the current Mac operating system. "None of it goes very fast," he said.

Jonathan Duke, a computing consultant at Boston College, agreed: "The OS is really what needs to evolve." He said he did not need the many PCI slots and digital video capabilities found with some Power Macs. "I'd rather spend the money on a faster processor," he said. □

Rebecca Gulick contributed to this report.

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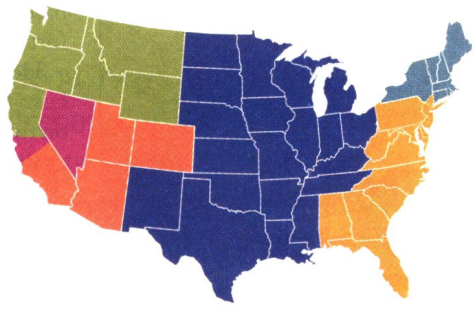

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Fear and loathing at Macworld Expo

By the time faithful MacWEEK readers have this column clutched in their meaty little fists, the Knife will be comfortably ensconced in his San Francisco pied-à-terre, sipping copiously from a bottle of Jim Beam and listening to the mellow strains of the Velvet Underground's "White Light/White Heat" album with his headphones cranked up to 11.

At the time of writing, of course, this pastoral reverie is but a twinkle in the Knife's bloodshot eye. The normally lusty implement has found his equanimity sorely tested by a mind-altering fun house ride of Macworld Expo-inflicted food, folks and fun in some of the seamier corners of Boston. Happily for his many fans (not to mention MacWEEK's long-suffering managing editor), he has managed to drag his much-abused carcass to the keys just in time to spew the latest and greatest in rumorology.

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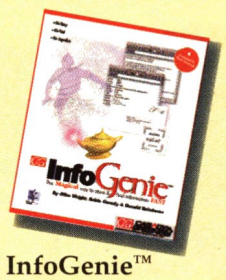

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IBM laps it up

Which brings us to the latest chapter in the Chaucerian saga of IBM and its quest for that holiest of holies: a PowerBook clone aimed at the U.S. market.

As the Knife's fellow travelers will remember, IBM originally planned to unveil its Mac-compatible PowerPC ThinkPad at this late, lamented Macworld Expo. Then, in a move that revealed the frightened child cowering within the gentle giant, Big Blue came down with a case of opening-night jitters and decided to limit the little black notebook to the Japanese market.

But fear not, Mac pilgrims: The Knife's acolytes now insist that the gang in Armonk has found that much-needed intestinal fortitude. At the 13th hour, the bashful cloner has decided to build a whole new all-American ThinkBook that will rear its streamlined snout at Comdex Las Vegas in November.

Running on NT

Meanwhile, in a charmingly literary example of role reversal, Apple is reportedly screwing up the courage to move in the opposite, platform-crossing direction with its PowerPC servers. Cupertino's passionate denials to the contrary, nine out of 10 server junkies agree that Apple will demonstrate Windows NT doing its thing on Apple Network Servers during September's Seybold show in San Francisco.

Moto mouth

Not every Tom, Dick or Gil is so shy when it comes to sounding off about its CPU plans. Take Motorola, which has been making plenty of noise about the bargain-basement pricing it has in mind for its forthcoming Mac OS clones.

However, the company apparently still has a bit to learn about keeping costs down on the software side, judging from reports of a recent deal with Dantz Development. According to some especially skittish sources, Moto recently shelled out a half-million simoleons for the right to bundle Disk Fit Direct, Dantz's simple but — well, simple — backup program.

Objects d'Marc

And speaking of bundles that cost a bundle: Netscape is reportedly embroiled in hot and heavy negotiations for the unreleased Live Objects version of its Navigator browser. While silky-cheeked *Wunderkind* Marc Andreessen lulled Macworld Expo attendees into catatonia with his keynote address, his Machiavellian minions were furiously hashing out the final details of a licensing deal that will stick the part into a productivity app from a major developer.

While he has yet to unmask the other party involved, the Knife is placing his bets on Claris Corp. and ClarisWorks 5.0. After all, nowadays Claris is adhering to OpenDoc like white on rice; furthermore, the software's current vestigial telecom component would benefit mightily from a swift kick in the parts. □

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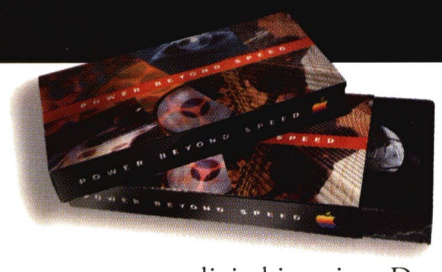

7/24 TECH SUPPORT

DataDock is available in black (shown) and platinum. Numerous configurations are available. It is fully compatible with Mac O/S®, Windows® and Windows NT®. Our sharable CD-R, DAT, MO, SyQuest® and Jaz® modules expand your workstation flexibility.

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